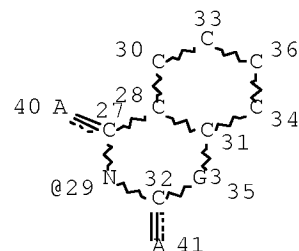
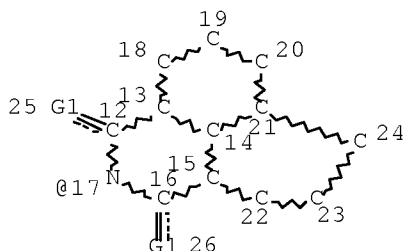
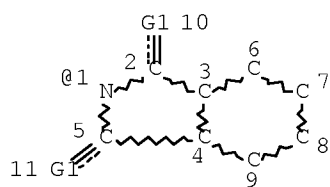


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L5

STR



G2 42

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VAR G2=1/17/29

VAR G3=O/S/N/C

NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

MLEVEL IS CLASS AT 22 23 24 40 41

DEFAULT ECLEVEL IS LIMITED

Ecount is unlimited at 22 23 24 40 41

GRAPH ATTRIBUTES:

RSPEC I

NUMBER OF NODES IS 39

STEREO ATTRIBUTES: NONE

L7 9572 SEA FILE=REGISTRY ABB=ON PLU=ON 591.160/RID

L8 261285 SEA FILE=REGISTRY ABB=ON PLU=ON 333.79/RID

L9 2056 SEA FILE=REGISTRY ABB=ON PLU=ON 591.266/RID

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L10      348787 SEA FILE=REGISTRY ABB=ON  PLU=ON  591.100/RID
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L11 262078 SEA FILE=REGISTRY ABB=ON PLU=ON 591.50/RID

L12 22679 SEA FILE=REGISTRY ABB=ON PLU=ON 1784.14/RID

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L14      902437 SEA FILE=REGISTRY ABB=ON  PLU=ON  (L7 OR L8 OR L9 OR L10
          OR L11 OR L12)
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L16 272323 SEA FILE=REGISTRY SUB=L14 SSS FUL L5

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L18      2845 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L16/D OR L16/DP
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L20            7   SEA   FILE=HCAPLUS   ABB=ON   PLU=ON   L18(L)PHENOLIC?

L21            4964 SEA FILE=HCAPLUS ABB=ON PLU=ON "PHENOLIC RESINS,  
PROPERTIES"+PFT.NT/CT

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L22      3  SEA FILE=HCAPLUS  ABB=ON   PLU=ON   L18 AND L21
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L23            852 SEA FILE=HCAPLUS ABB=ON    PLU=ON    L18 AND PRP/RL

L24            12   SEA   FILE=HCAPLUS   ABB=ON   PLU=ON   L23   AND   LITHOG?

L25                    9 SEA FILE=HCAPLUS ABB=ON    PLU=ON    L18(L)PHENOL?

L26 156 SEA FILE=HCAPLUS ABB=ON PLU=ON L18 AND PHENOL?

L27                    4   SEA   FILE=HCAPLUS   ABB=ON   PLU=ON   L26   AND   LITHOG?

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              OR L27
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L29                    4   SEA   FILE=HCAPLUS   ABB=ON   PLU=ON   L18(L)NOVOLAK?

L30            20 SEA FILE=HCAPLUS ABB=ON   PLU=ON   L18 AND NOVOLAK?

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L33 24 SEA FILE=HCAPLUS ABB=ON PLU=ON L18 AND (L31 OR L32)  
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 L35 36 SEA FILE=HCAPLUS ABB=ON PLU=ON L34 AND (1840-2003)/PRY,A  
 Y,PY  
 L36 496 SEA FILE=HCAPLUS ABB=ON PLU=ON L18 AND POLYMER?/SC, SX  
 L37 638 SEA FILE=HCAPLUS ABB=ON PLU=ON L18(L)PRP/RL  
 L38 230 SEA FILE=HCAPLUS ABB=ON PLU=ON L37 AND L36  
 L39 1 SEA FILE=HCAPLUS ABB=ON PLU=ON L38 AND L31  
 L40 0 SEA FILE=HCAPLUS ABB=ON PLU=ON L38 AND L32  
 L41 1 SEA FILE=HCAPLUS ABB=ON PLU=ON L38 AND LITHOG?  
 L42 26 SEA FILE=HCAPLUS ABB=ON PLU=ON L38 AND ?RESIST?  
 L43 26 SEA FILE=HCAPLUS ABB=ON PLU=ON (L39 OR L40 OR L41 OR  
 L42)  
 L44 18 SEA FILE=HCAPLUS ABB=ON PLU=ON L43 AND (1840-2003)/PRY,A  
 Y,PY  
 L45 53 SEA FILE=HCAPLUS ABB=ON PLU=ON L35 OR L44

=> d 145 1-53 ibib ed abs hitstr hitind

L45 ANSWER 1 OF 53 HCAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 2004:929877 HCAPLUS Full-text  
 DOCUMENT NUMBER: 142:177748  
 TITLE: Novel poly(amide-imide) having high heat-  
 resistance and low insulation property by  
 using 1,5-bis(trimellitimido-2,4,6-trimethyl  
 benzene and process for producing the same  
 INVENTOR(S): Han, Hak Soo; Lee, Chun Geun; Lee, Chung Bong;  
 Min, Gyeong Uk  
 PATENT ASSIGNEE(S): S. Korea  
 SOURCE: Repub. Korean Kongkae Taeho Kongbo, No pp. given  
 CODEN: KRXXA7  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Korean  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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KR 2002078871	A	20021019	KR 2001-19134	20010411
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PRIORITY APPLN. INFO.:			KR 2001-19134	20010411
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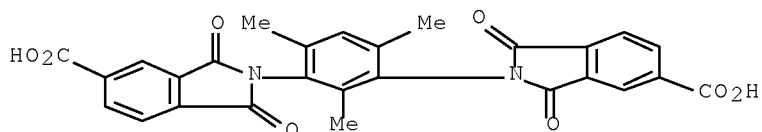
ED Entered STN: 04 Nov 2004

AB Provided is novel poly(amide-imide) having high heat- resistance, excellent  
 dissoln. property, and low insulation property, which is produced by using  
 1,5-bis(trimellitimido-2,4,6- trimethyl benzene(BTB). The poly(amide-imide) is  
 produced by polymerizing directly 1,5-bis(trimellitimido-2,4,6-trimethyl  
 benzene(BTB) with diamines, wherein 1,5-bis(trimellitimido-2,4,6-trimethyl  
 benzene(BTB) is produced by dissolving trimellitic acid and DAM (2,4-  
 Diaminomesitylene) in N-methylpyrrolidinone and condensing.

IT 159523-76-9DP, polyamide-imides  
 (preparation of bis(trimellitimidotrimethylbenzene-based poly(amide  
 imides) having high heat resistance and low insulation  
 properties)

RN 159523-76-9 HCAPLUS

CN 1H-Isoindole-5-carboxylic acid, 2,2'-(2,4,6-trimethyl-1,3-  
 phenylene)bis[2,3-dihydro-1,3-dioxo- (9CI) (CA INDEX NAME)



- IC ICM C08G073-14  
 CC 37-6 (Plastics Manufacture and Processing)  
 Section cross-reference(s): 35, 38  
 ST heat resistant low insulation polyamide polyimide;  
 bistrimellitimidotrimethylbenzene polyamide polyimide  
 IT Polyimides, preparation  
 (polyamide-; preparation of bistrimellitimidotrimethylbenzene-based  
 poly(amide imides) having high heat resistance and low  
 insulation properties)  
 IT Polyamides, preparation  
 (polyimide-; preparation of bistrimellitimidotrimethylbenzene-based  
 poly(amide imides) having high heat resistance and low  
 insulation properties)  
 IT Polymerization  
 (preparation of bistrimellitimidotrimethylbenzene-based poly(amide  
 imides) having high heat resistance and low insulation  
 properties)  
 IT 159523-76-9P  
 (monomer; preparation of bistrimellitimidotrimethylbenzene-based  
 poly(amide imides) having high heat resistance and low  
 insulation properties)  
 IT 159523-76-9DP, polyamide-imides  
 (preparation of bistrimellitimidotrimethylbenzene-based poly(amide  
 imides) having high heat resistance and low insulation  
 properties)  
 IT 528-44-9, Trimellitic acid 3102-70-3  
 (preparation of bistrimellitimidotrimethylbenzene-based poly(amide  
 imides) having high heat resistance and low insulation  
 properties)

L45 ANSWER 2 OF 53 HCAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 2004:355014 HCAPLUS Full-text  
 DOCUMENT NUMBER: 140:358214  
 TITLE: Polymer for heat-sensitive lithographic  
 printing plate precursor with good cured chemical  
 resistance  
 INVENTOR(S): Groenendaal, Bert; Loccufier, Johan; Van Aert,  
 Huub; Van Damme, Marc  
 PATENT ASSIGNEE(S): Agfa-Gevaert, Belg.  
 SOURCE: PCT Int. Appl., 47 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004035686	A2	20040429	WO 2003-EP50633	20030918
			<--	
WO 2004035686	A3	20041021		

10/531,629

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH,  
CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB,  
GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR,  
KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX,  
MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG,  
SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN,  
YU, ZA, ZM, ZW

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ,  
BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK,  
EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE,  
SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR,  
NE, SN, TD, TG

AU 2003274112 A1 20040504 AU 2003-274112 20030918

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EP 1554346 A2 20050720 EP 2003-758095 20030918

<--

EP 1554346 B1 20080416

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC,  
PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK

CN 1688657 A 20051026 CN 2003-824213 20030918

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JP 2006503143 T 20060126 JP 2004-544290 20030918

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US 20060144269 A1 20060706 US 2005-530992 20050916

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PRIORITY APPLN. INFO.: EP 2002-102444 A 20021015

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US 2002-420907P P 20021024

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WO 2003-EP50633 W 20030918

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ED Entered STN: 30 Apr 2004

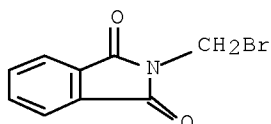
AB A polymer for a heat-sensitive lithog. printing plate precursor is disclosed wherein the polymer comprises a phenolic monomeric unit wherein the H atom of the hydroxy group of the Ph group of the phenolic monomeric unit is replaced by a group comprising a N-imide group and wherein the substitution of the polymer increases the chemical resistance of the coating of the printing plate precursor. Thus, reacting N-(bromomethyl)phthalimide with Alnovol SPN 452 (novolak polymer) gave a modified resin useful for lithog. printing plate precursor.

IT 5332-26-3DP, N-(Bromomethyl)phthalimide, reaction products with novolak resins 17564-64-6DP, N-(Chloromethyl)phthalimide, reaction products with novolak resins

(polymer for heat-sensitive lithog. printing plate precursor with good cured chemical resistance)

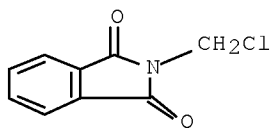
RN 5332-26-3 HCAPLUS

CN 1H-Isoindole-1,3(2H)-dione, 2-(bromomethyl)- (CA INDEX NAME)



RN 17564-64-6 HCAPLUS

CN 1H-Isoindole-1,3(2H)-dione, 2-(chloromethyl)- (CA INDEX NAME)



IC ICM C08L061-14  
 CC 37-3 (Plastics Manufacture and Processing)  
 Section cross-reference(s): 38, 74  
 ST lithog printing plate prepn heat sensitive  
 phenolic novolak  
 IT Phenolic resins, properties  
 (novolak, modified; polymer for heat-sensitive  
 lithog. printing plate precursor with good cured chemical  
 resistance)  
 IT Positive photoresists  
 Printing plates  
 (polymer for heat-sensitive lithog. printing plate  
 precursor with good cured chemical resistance)  
 IT 5332-26-3DP, N-(Bromomethyl)phthalimide, reaction products  
 with novolak resins 17564-64-6DP,  
 N-(Chloromethyl)phthalimide, reaction products with novolak  
 resins 100346-90-5DP, Alnovol SPN 452, imide-modified products  
 681430-18-2DP, Alnovol HPN 100, imide-modified products  
 (polymer for heat-sensitive lithog. printing plate  
 precursor with good cured chemical resistance)

L45 ANSWER 3 OF 53 HCAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 2004:354986 HCAPLUS Full-text  
 DOCUMENT NUMBER: 140:358210  
 TITLE: Polymer for heat-sensitive lithographic  
 printing plate precursor with good cured chemical  
 resistance  
 INVENTOR(S): Loccufier, Johan; Groenendaal, Bert; Van Aert,  
 Huub; Van Damme, Marc  
 PATENT ASSIGNEE(S): Agfa-Gevaert, Belg.  
 SOURCE: PCT Int. Appl., 55 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004035645	A1	20040429	WO 2003-EP50657	20030925

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 CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB,  
 GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR,  
 KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX,  
 MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG,  
 SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN,  
 YU, ZA, ZM, ZW

10/531,629

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ,  
 BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK,  
 EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE,  
 SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR,  
 NE, SN, TD, TG

AU 2003278180 A1 20040504 AU 2003-278180 20030925

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EP 1554324 A1 20050720 EP 2003-769495 20030925

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R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC,  
 PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK

CN 1688625 A 20051026 CN 2003-824214 20030925

<--

JP 2006503144 T 20060126 JP 2004-544292 20030925

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US 20060019191 A1 20060126 US 2005-531629 20050701

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PRIORITY APPLN. INFO.: EP 2002-102445 A 20021015

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US 2002-421540P P 20021025

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WO 2003-EP50657 W 20030925

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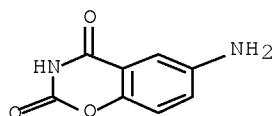
ED Entered STN: 30 Apr 2004

AB A polymer for a heat-sensitive lithog. printing plate precursor is disclosed wherein the polymer comprises a phenolic monomeric unit of which the Ph group is substituted by a group A characterized in that the group A comprises an imide or thioimide group and wherein the modification of the polymer increases the chemical resistance of the coating of the printing plate precursor. Thus, reacting a SO<sub>2</sub>Cl<sub>2</sub>-activated mercaptoaminothiadiazole succinimide with Alnovol SPN 452 (novolak resin) gave a modified product useful for printing plate precursor.

IT 4297-75-0DP, reaction products with novolaks  
 20871-03-8DP, reaction products with novolaks  
 (polymer for heat-sensitive lithog. printing plate  
 precursor with good cured chemical resistance)

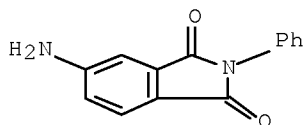
RN 4297-75-0 HCAPLUS

CN 2H-1,3-Benzoxazine-2,4(3H)-dione, 6-amino- (CA INDEX NAME)



RN 20871-03-8 HCAPLUS

CN 1H-Isoindole-1,3(2H)-dione, 5-amino-2-phenyl- (CA INDEX NAME)



IC ICM C08G008-28  
ICS C08L061-14; G03F007-105  
CC 37-3 (Plastics Manufacture and Processing)  
Section cross-reference(s): 38, 74  
ST lithog printing plate manuf heat sensitive modified  
novolak resin  
IT Phenolic resins, properties  
(novolak, modified; polymer for heat-sensitive  
lithog. printing plate precursor with good cured chemical  
resistance)  
IT Positive photoresists  
Printing plates  
(polymer for heat-sensitive lithog. printing plate  
precursor with good cured chemical resistance)  
IT 4297-75-ODP, reaction products with novolaks  
20871-03-8DP, reaction products with novolaks  
100346-90-5P, Alnovol SPN 452 681430-23-9DP, reaction products with  
novolaks 681430-24-0DP, reaction products with  
novolaks  
(polymer for heat-sensitive lithog. printing plate  
precursor with good cured chemical resistance)

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR  
THIS RECORD. ALL CITATIONS AVAILABLE IN THE  
RE FORMAT

L45 ANSWER 4 OF 53 HCAPLUS COPYRIGHT 2008 ACS on STN  
ACCESSION NUMBER: 2004:5238 HCAPLUS Full-text  
DOCUMENT NUMBER: 140:84631  
TITLE: Photosensitive polymer composition, method of  
forming relief patterns, and electronic equipment  
INVENTOR(S): Nunomura, Masataka; Ooe, Masayuki; Nakano, Hajime;  
Tsumaru, Yoshihiko; Ueno, Takumi  
PATENT ASSIGNEE(S): Hitachi Chemical Dupont Microsystems Ltd., Japan  
SOURCE: Eur. Pat. Appl., 30 pp.  
CODEN: EPXXDW  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 2  
PATENT INFORMATION:

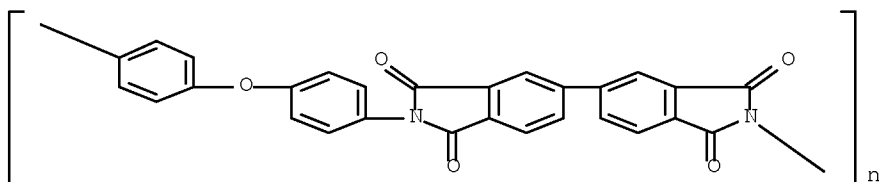
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1376231	A1	20040102	EP 2003-11014	20030516
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JP 2003337415	A	20031128	JP 2002-143166	20020517
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JP 2004279654	A	20041007	JP 2003-69898	20030314
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PRIORITY APPLN. INFO.:			JP 2002-143166	A 20020517
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			JP 2003-69898	A 20030314
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ED Entered STN: 05 Jan 2004

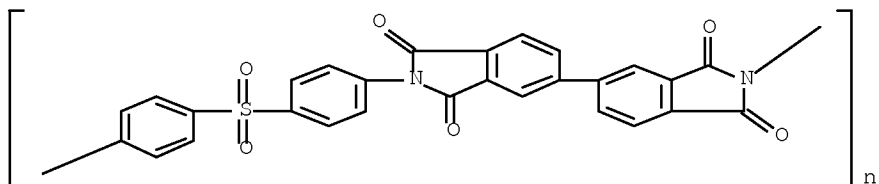
AB A photosensitive polymer composition, has (a) a polymer selected from  
polyimide precursors and polyimides having an acid group protected by a  
protecting group and having no amino group (-NH<sub>2</sub>) at the end; and (b) a

compound that generates an acid when exposed to light and capable of deprotecting the protecting group from the acid group, is employed to form layers of a semiconductor device.

- IT 26615-45-2DP, 3,3',4,4'-Biphenyltetracarboxylic acid dianhydride-4,4'-diaminodiphenyl ether copolymer, SRU, reaction product with Chloromethyl Et ether 77243-66-4DP, 3,3',4,4'-Biphenyltetracarboxylic acid dianhydride-4,4'-diaminodiphenyl sulfone copolymer, SRU, reaction product with chloromethyl Et ether 121334-10-9DP, reaction product with di-Bu dicarbonate  
(photosensitive polymer composition for forming relief patterns and electronic equipment containing)
- RN 26615-45-2 HCAPLUS
- CN Poly[(1,1',3,3'-tetrahydro-1,1',3,3'-tetraoxo[5,5'-bi-2H-isoindole]-2,2'-diyl)-1,4-phenyleneoxy-1,4-phenylene] (CA INDEX NAME)

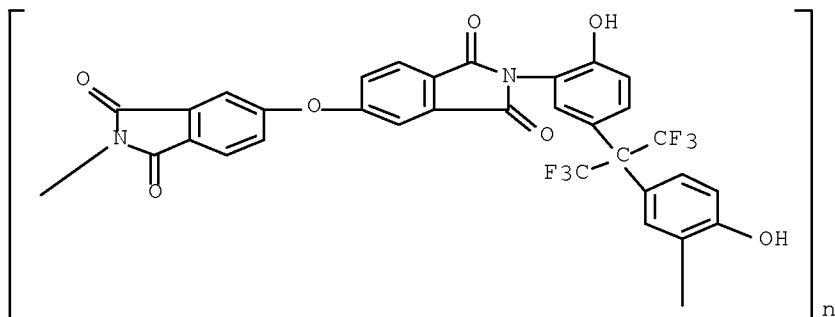


- RN 77243-66-4 HCAPLUS
- CN Poly[(1,1',3,3'-tetrahydro-1,1',3,3'-tetraoxo[5,5'-bi-2H-isoindole]-2,2'-diyl)-1,4-phenylenesulfonyl-1,4-phenylene] (CA INDEX NAME)



- RN 121334-10-9 HCAPLUS
- CN Poly[(1,3-dihydro-1,3-dioxo-2H-isoindole-2,5-diyl)oxy(1,3-dihydro-1,3-dioxo-2H-isoindole-5,2-diyl)(6-hydroxy-1,3-phenylene)[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene](4-hydroxy-1,3-phenylene)] (CA INDEX NAME)





- IC ICM G03F007-039  
ICS G03F007-023
- CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
Section cross-reference(s): 35, 38, 76
- IT Positive photoresists  
Semiconductor devices  
(photosensitive polymer composition for forming relief patterns and electronic equipment)
- IT 101-80-4DP, 4,4'-Diaminodiphenyl ether, reaction product with Chloromethyl Et ether; polyimides 3188-13-4DP, Chloromethyl ethyl ether, reaction product with polyamic acid 26298-81-7DP, 3,3',4,4'-Biphenyltetracarboxylic acid dianhydride-4,4'-diaminodiphenyl ether copolymer, reaction product with Chloromethyl Et ether 26298-81-7P, 3,3',4,4'-Biphenyltetracarboxylic acid dianhydride-4,4'-diaminodiphenyl ether copolymer 26615-45-2DP, 3,3',4,4'-Biphenyltetracarboxylic acid dianhydride-4,4'-diaminodiphenyl ether copolymer, SRU, reaction product with Chloromethyl Et ether 26615-45-2P, 3,3',4,4'-Biphenyltetracarboxylic acid dianhydride-4,4'-diaminodiphenyl ether copolymer, SRU 35243-37-9DP, reaction product with Chloromethyl Et ether; polyimides 56091-26-0P 77238-85-8DP, 3,3',4,4'-Biphenyltetracarboxylic acid dianhydride-4,4'-diaminodiphenyl sulfone copolymer, reaction product with Chloromethyl Et ether 77243-66-4DP, 3,3',4,4'-Biphenyltetracarboxylic acid dianhydride-4,4'-diaminodiphenyl sulfone copolymer, SRU, reaction product with chloromethyl Et ether 121333-86-6DP, reaction product with di-Bu dicarbonate 121334-10-9DP, reaction product with di-Bu dicarbonate 158853-02-2DP, reaction product with Chloromethyl Et ether 640737-52-6P, Bis(3-amino-4-hydroxyphenyl)hexafluoropropane-4,4'-diaminodiphenyl ether-4,4'-dicarboxydiphenyl ether dichloride-3,3',4,4'-dicyclohexyl ether tetracarboxylic acid dianhydride copolymer  
(photosensitive polymer composition for forming relief patterns and electronic equipment containing)

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L45 ANSWER 5 OF 53 HCAPLUS COPYRIGHT 2008 ACS on STN  
ACCESSION NUMBER: 2003:168707 HCAPLUS Full-text  
DOCUMENT NUMBER: 138:229209  
TITLE: Electrostatographic toner causing less scattering  
INVENTOR(S): Sato, Yoshihiro; Fujii, Keiichi

PATENT ASSIGNEE(S): Dainippon Ink and Chemicals, Inc., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 20 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2003066653	A	20030305	JP 2001-257244	20010828
			<--	
PRIORITY APPLN. INFO.:			JP 2001-257244	20010828
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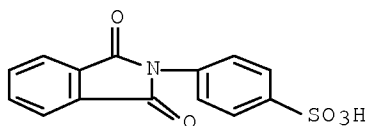
ED Entered STN: 06 Mar 2003

AB A toner, which is suitable for use with electrostatog. apparatus of wide speed range and less likely to scatter in an electrophotog. device and produces high quality prints with sustained stability, comprises a polyester binder resin and an aromatic sulfonic acid zirconium compound as charge-control agent. The binder resin is obtained by the reaction of polybasic compds. selected from polybasic carboxylic acids, their anhydrides, and their lower alkyl esters with diols including compds. selected from bisphenol A and bisphenol A adducts with ethylene oxide and/or propylene oxide.

IT 86581-47-7DP, zirconium complexes 481054-38-0DP, zirconium complexes  
 (charge-control agents for electrostatog. toner)

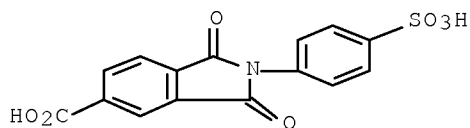
RN 86581-47-7 HCAPLUS

CN Benzenesulfonic acid, 4-(1,3-dihydro-1,3-dioxo-2H-isoindol-2-yl)- (CA INDEX NAME)



RN 481054-38-0 HCAPLUS

CN 1H-Isoindole-5-carboxylic acid, 2,3-dihydro-1,3-dioxo-2-(4-sulfophenyl)- (CA INDEX NAME)



IC ICM G03G009-097

ICS G03G009-087

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

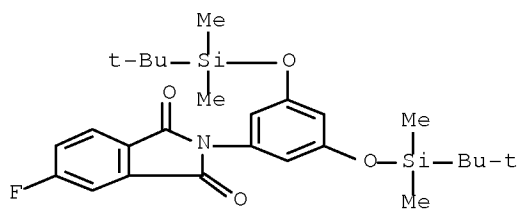
IT Polyesters, properties

(epoxy-phenolic, novolak; electrostatog. toner causing less scattering)  
 IT Phenolic resins, properties  
 (epoxy-polyester-, novolak; electrostatog. toner causing less scattering)  
 IT Epoxy resins, properties  
 (phenolic-polyester-, novolak; electrostatog. toner causing less scattering)  
 IT 86581-47-7DP, zirconium complexes 481054-38-0DP, zirconium complexes  
 (charge-control agents for electrostatog. toner)

L45 ANSWER 6 OF 53 HCAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 2002:592334 HCAPLUS Full-text  
 DOCUMENT NUMBER: 137:161388  
 TITLE: Positively working photosensitive polyimide composition with high i-line sensitivity and its film  
 INVENTOR(S): Okazaki, Maki; Shibazaki, Yuji; Ueda, Mitsuru  
 PATENT ASSIGNEE(S): JSR Ltd., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 11 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	-----
JP 2002221793	A	20020809	JP 2001-20016	20010129
			<--	
PRIORITY APPLN. INFO.:			JP 2001-20016	20010129
			<--	

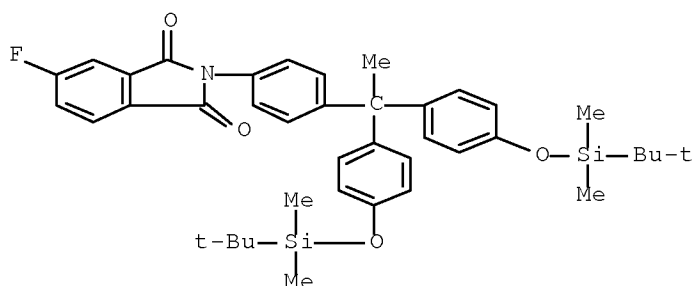
ED Entered STN: 09 Aug 2002  
 AB The composition contains hyperbranched polyimides having alkali-soluble groups and dissoln. inhibitors. The polyimide film is obtained by irradiation and development of the above composition. The composition shows high i-line sensitivity and gives high-contrast patterns to be useful for manufacture of interlayer insulating films of high-d. multilayer circuit boards.  
 IT 243459-29-2DP, hydrolyzed 266695-65-2DP, hydrolyzed  
 (pos.-working photosensitive polyimide composition with high i-line sensitivity and its film)  
 RN 243459-29-2 HCAPLUS  
 CN 1H-Isoindole-1,3(2H)-dione, 2-[3,5-bis[[[1,1-dimethylethyl]dimethylsilyl]oxy]phenyl]-5-fluoro-, homopolymer (9CI)  
 (CA INDEX NAME)  
 CM 1  
 CRN 243459-23-6  
 CMF C26 H36 F N O4 Si2



RN 266695-65-2 HCAPLUS  
 CN 1H-Isoindole-1,3(2H)-dione, 2-[4-[1,1-bis[4-[[1,1-dimethylethyl]dimethylsilyl]oxy]phenyl]ethyl]phenyl]-5-fluoro-, homopolymer (9CI) (CA INDEX NAME)

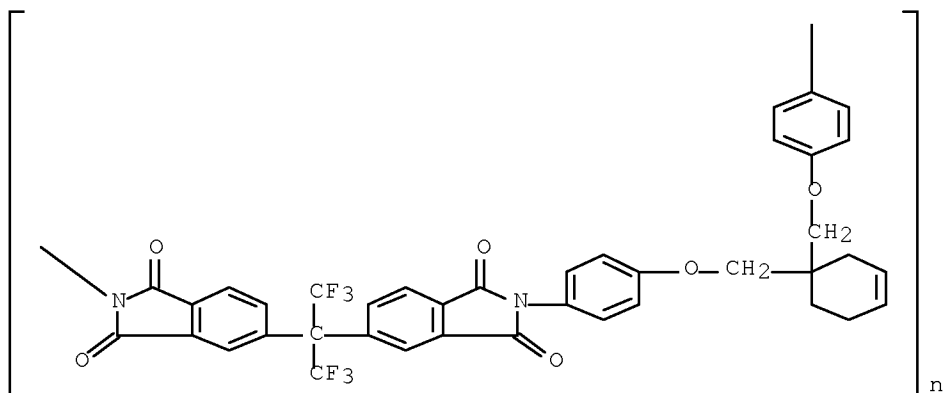
CM 1

CRN 266695-64-1  
 CMF C40 H48 F N O4 Si2



IC ICM G03F007-037  
 ICS C08G073-10; C08J005-18; C08K005-28; C08L079-08; G03F007-022; H01L021-027  
 CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
 Section cross-reference(s): 38, 76  
 IT Positive photoresists  
 (pos.-working photosensitive polyimide composition with high i-line sensitivity and its film)  
 IT 243459-29-2DP, hydrolyzed 266695-65-2DP, hydrolyzed  
 (pos.-working photosensitive polyimide composition with high i-line sensitivity and its film)

L45 ANSWER 7 OF 53 HCAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 2002:532749 HCAPLUS Full-text  
 DOCUMENT NUMBER: 138:272250  
 TITLE: Light-sensitive fluorine-containing polyimides with side 1,2,3-thiadiazole rings  
 AUTHOR(S): Vainer, A. Ya.; Dyumaev, K. M.; Lodygin, S. K.; Posadskaya, N. P.  
 CORPORATE SOURCE: All-Russia Institute of Medicinal and Aromatic Plants, Russian Academy of Agricultural Sciences, Moscow, 113628, Russia



- 13

(preparation and lithog. efficiency of light-sensitive  
fluorine-containing polyimides with side thiadiazole rings)

IT 59834-05-8DP, reaction products with epoxidized  
bis(aminphenoxymethyl)cyclohexene-bis(dicarboxyphenyl)hexafluoropropan  
e dianhydride copolymer 224630-56-2DP, epoxidized, reaction products  
with (hydroxyphenyl)thiadiazole 224630-57-3DP, epoxidized,  
reaction products with (hydroxyphenyl)thiadiazole

(preparation and lithog. efficiency of light-sensitive  
fluorine-containing polyimides with side thiadiazole rings)

REFERENCE COUNT: 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR  
THIS RECORD. ALL CITATIONS AVAILABLE IN THE  
RE FORMAT

L45 ANSWER 8 OF 53 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2001:621423 HCAPLUS Full-text

DOCUMENT NUMBER: 135:331760

TITLE: New positive type photosensitive polyimide:  
hyperbranched poly (ether imide) with  
diazonaphthoquinone

AUTHOR(S): Okazaki, Masaki; Shibasaki, Yuji; Ueda, Mitsuru

CORPORATE SOURCE: Department of Organic and Polymeric materials,  
Tokyo Institute of Technology, Tokyo, 152-8552,  
Japan

SOURCE: Journal of Photopolymer Science and Technology (   
2001), 14(1), 45-50

CODEN: JSTEED; ISSN: 0914-9244

PUBLISHER: Technical Association of Photopolymers, Japan

DOCUMENT TYPE: Journal

LANGUAGE: English

ED Entered STN: 28 Aug 2001

AB A pos. working photosensitive polyimide based on hyperbranched poly(ether  
imide) (H-PEI) and 2,3,4-tris[1-oxo-2-diazonaphthoquinone-5- sulfonyloxy]  
benzophenone (D5SB) as a photoreactive compound was developed. The H-PEI was  
prepared by polycondensation of 3,5-di-tert-butyl dimethylsilyloxyphenyl-4-  
fluorophthalimide, followed by deprotection by hydrolysis of the tert-  
butyl dimethylsilyl group with KF-HBr. The H-PEI has excellent transparency to  
UV light. The photosensitive polyimide containing 30% of D5SB showed  
photosensitivity of 120 mJ·cm<sup>-2</sup> and contrast of 2.8 when it was exposed to 365  
nm light followed by developing with a 2.38% aqueous tetramethylammonium  
hydroxide solution at room temperature

IT 243459-29-2DP, hydrolyzed  
(preparation of hyperbranched polyetherimide and dissoln. rate of pos.  
photosensitive polyetherimide - diazonaphthoquinone system)

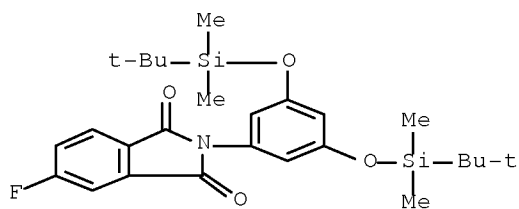
RN 243459-29-2 HCAPLUS

CN 1H-Isoindole-1,3(2H)-dione, 2-[3,5-bis[[[1,1-  
dimethylethyl]dimethylsilyl]oxy]phenyl]-5-fluoro-, homopolymer (9CI)  
(CA INDEX NAME)

CM 1

CRN 243459-23-6

CMF C26 H36 F N O4 Si2

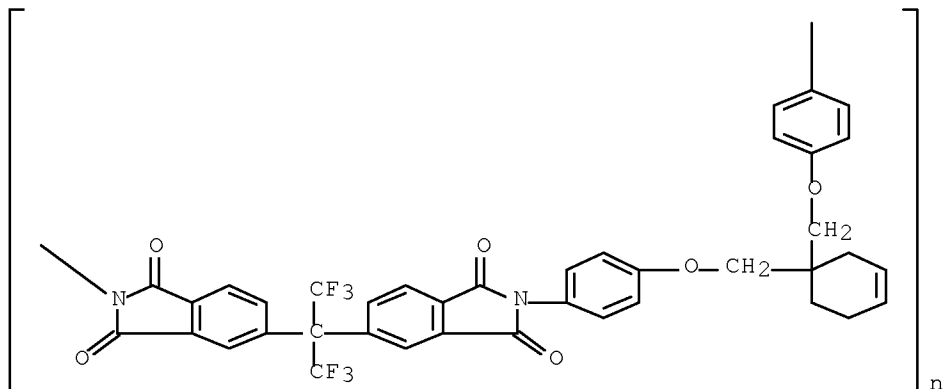


CC 35-5 (Chemistry of Synthetic High Polymers)  
 Section cross-reference(s): 37, 74  
 ST hyperbranched polyetherimide prepn transparency pos  
 photoresist; diazonaphthoquinone sulfonyloxybenzophenone  
 dissoln inhibitor polyetherimide pos photoresist  
 IT Dissolution rate  
 Light-sensitive materials  
 Positive photoresists  
 Transparency  
 (preparation of hyperbranched polyetherimide and dissoln. rate of pos.  
 photosensitive polyetherimide - diazonaphthoquinone system)  
 IT 243459-29-2DP, hydrolyzed  
 (preparation of hyperbranched polyetherimide and dissoln. rate of pos.  
 photosensitive polyetherimide - diazonaphthoquinone system)  
 REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR  
 THIS RECORD. ALL CITATIONS AVAILABLE IN THE  
 RE FORMAT

L45 ANSWER 9 OF 53 HCAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 2001:19893 HCAPLUS Full-text  
 DOCUMENT NUMBER: 134:208269  
 TITLE: New unsaturated polyimides: synthesis, thermo- and  
 photochemical transformations of fluorinated  
 polyimides with pendant acenaphthylene fragments  
 AUTHOR(S): Vainer, A. Ya.; Dyumaev, K. M.; Kaminarskaya, Kh.  
 B.; Kornienko, E. Yu.  
 CORPORATE SOURCE: Vseross. Nauchno-Issled. Inst. Lekarstvennykh i  
 Aromaticheskikh Rastenii, Ross. Akad. S-Kh. Nauk,  
 Moscow, Russia  
 SOURCE: Doklady Akademii Nauk (2000), 375(1),  
 60-63  
 CODEN: DAKNEQ; ISSN: 0869-5652  
 PUBLISHER: MAIK Nauka  
 DOCUMENT TYPE: Journal  
 LANGUAGE: Russian  
 ED Entered STN: 10 Jan 2001  
 AB Fluorine-containing polyimides having acenaphthylenyl in a side chain were  
 prepared from 4,4'-bis(4'-aminophenoxyethyl)-1-cyclohexene-based polyimides  
 by their epoxidn. with tert-Bu hydroperoxide followed by PPh3-catalyzed  
 etherification with 4-acenaphthylenol. All the polyimides are thermally  
 stable at temps.  $\leq 400^\circ$ . The polymers were tested for neg. photoresist  
 application using 2,6-bis(4'-azidobenzylidene)-4-methylcyclohexanone as a  
 structuring agent.  
 IT 224630-57-3DP, epoxidized, ethers with 4-acenaphthylenol  
 329039-14-7DP, epoxidized, ethers with 4-acenaphthylenol  
 329039-16-9DP, epoxidized, ethers with 4-acenaphthylenol  
 (synthesis, thermo- and photochem. transformations of fluorinated  
 polyimides with pendant acenaphthylene fragments)

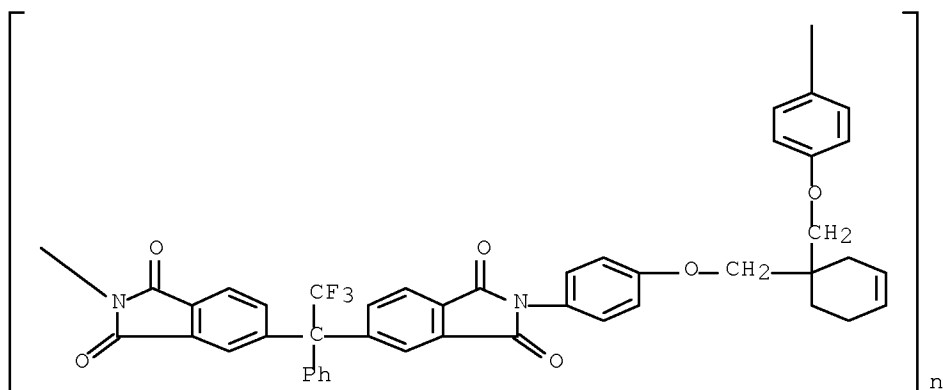
RN 224630-57-3 HCAPLUS

CN Poly[(1,3-dihydro-1,3-dioxo-2H-isoindole-2,5-diyl)[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene](1,3-dihydro-1,3-dioxo-2H-isoindole-5,2-diyl)-1,4-phenyleneoxymethylene-3-cyclohexen-1-ylidenemethyleneoxy-1,4-phenylene] (9CI) (CA INDEX NAME)



RN 329039-14-7 HCAPLUS

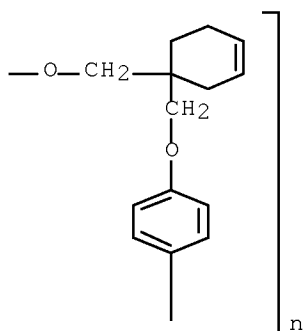
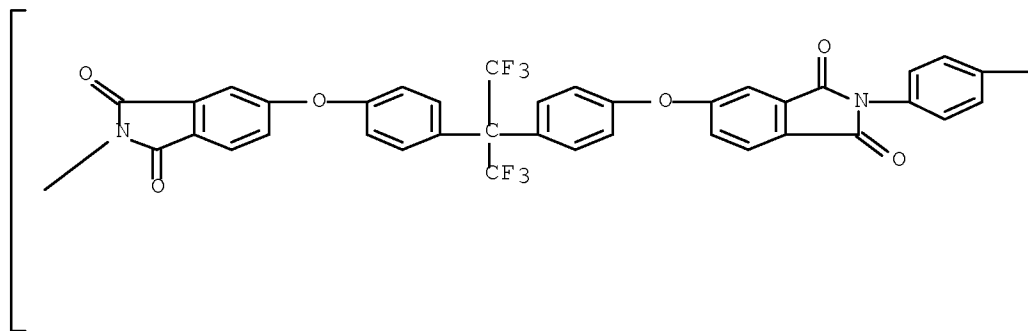
CN Poly[(1,3-dihydro-1,3-dioxo-2H-isoindole-2,5-diyl)(2,2,2-trifluoro-1-phenylethylidene)(1,3-dihydro-1,3-dioxo-2H-isoindole-5,2-diyl)-1,4-phenyleneoxymethylene-3-cyclohexen-1-ylidenemethyleneoxy-1,4-phenylene] (9CI) (CA INDEX NAME)



RN 329039-16-9 HCAPLUS

CN Poly[(1,3-dihydro-1,3-dioxo-2H-isoindole-2,5-diyl)oxy-1,4-phenylene[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]-1,4-phenyleneoxy(1,3-dihydro-1,3-dioxo-2H-isoindole-5,2-diyl)-1,4-phenyleneoxymethylene-3-cyclohexen-1-ylidenemethyleneoxy-1,4-phenylene] (9CI) (CA INDEX NAME)





CC 35-5 (Chemistry of Synthetic High Polymers)  
 Section cross-reference(s): 36, 74

ST photoresist acenaphthylene contg fluoro polyimide synthesis  
 thermal stability

IT Negative photoresists  
 Photolithography  
 (synthesis, thermo- and photochem. transformations of fluorinated  
 polyimides with pendant acenaphthylene fragments)

IT 111013-09-3DP, 4-Acenaphthylenol, ethers with epoxidized  
 fluorine-containing unsatd. polyimides 224630-56-2DP, epoxidized, ethers  
 with 4-acenaphthylenol 224630-57-3DP, epoxidized, ethers  
 with 4-acenaphthylenol 329039-13-6DP, epoxidized, ethers with  
 4-acenaphthylenol 329039-14-7DP, epoxidized, ethers with  
 4-acenaphthylenol 329039-15-8DP, epoxidized, ethers with  
 4-acenaphthylenol 329039-16-9DP, epoxidized, ethers with  
 4-acenaphthylenol  
 (synthesis, thermo- and photochem. transformations of fluorinated  
 polyimides with pendant acenaphthylene fragments)

L45 ANSWER 10 OF 53 HCAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 2000:635095 HCAPLUS Full-text  
 DOCUMENT NUMBER: 133:239048  
 TITLE: Thermoplastic polyimide heat-resistant

adhesives containing crosslinkable acetylene terminal groups

INVENTOR(S): Ohkawa, Yuichi; Sakata, Yoshihiro; Okumura, Tomomi; Shibuya, Atsushi; Kuroki, Takashi; Oikawa, Hideaki

PATENT ASSIGNEE(S): Mitsui Chemical Industry Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 34 pp.  
CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2000248252	A	20000912	JP 1999-101106	19990408
			<--	
PRIORITY APPLN. INFO.:			JP 1998-374652	A 19981228
			<--	

ED Entered STN: 13 Sep 2000

AB The polyimides (A) are prepared by reacting a diamine monomer having four benzene rings and both amino groups on the meta positions and an aromatic tetracarboxylic dianhydride monomer first then adding one or two dicarboxylic acid anhydride mols. with C.tplbond.C groups as terminal blocking agents and finally heat-treating the precursor polyamic acids (B) at higher temperature. Thus, reacting a mixture of 73.69 g 4,4'-bis(3-aminophenoxy)biphenyl and 55.49 g 3,3',4,4'-biphenyltetracarboxylic acid anhydride in 302.38 g N-methylpyrrolidone at room temperature for 6 h then adding 1.24 g 2-(3,4-dicarboxyphenyl)-1-phenylacetylene anhydride and 0.74 g phthalic acid anhydride and reacting for another 12 h gave a B with logarithmic viscosity of 0.51 dL/g and finally heating B solution at 100°, 200° and 250° for 1 h resp. gave an A with adhesive strength of 2.20 kg/cm and good heat resistance.

IT 52004-08-7DP, 3,3',4,4'-Benzophenonetetracarboxylic dianhydride-bis[4-(3-aminophenoxy)phenyl] sulfone copolymer, polyimide sru, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 74970-14-2DP, Bis[4-(3-aminophenoxy)phenyl] sulfone-3,3',4,4'-diphenyl ether tetracarboxylic dianhydride copolymer, polyimide sru, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 95903-18-2DP, 3,3',4,4'-Biphenyltetracarboxylic acid anhydride-bis[4-(3-aminophenoxy)phenyl] sulfone copolymer, polyimide sru, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 105359-95-3DP, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 110563-83-2DP, 3,3',4,4'-Benzophenonetetracarboxylic dianhydride-bis[4-(3-aminophenoxy)phenyl]sulfide copolymer, polyimide sru, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 110563-85-4DP, 3,3',4,4'-Benzophenonetetracarboxylic dianhydride-4,4'-bis(3-aminophenoxy)biphenyl copolymer, polyimide sru, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 110563-86-5DP, 4,4'-Bis(3-aminophenoxy)biphenyl-3,3',4,4'-diphenyl ether tetracarboxylic dianhydride copolymer, polyimide sru, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 116964-65-9DP, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 116964-66-0DP, 3,3',4,4'-Biphenyltetracarboxylic acid anhydride-bis[4-(3-aminophenoxy)phenyl]sulfide copolymer, polyimide sru, reaction product

with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 117548-00-2DP, 4,4'-Bis(3-aminophenoxy)biphenyl-1,4-bis(3,4-dicarboxyphenoxy)benzene dianhydride copolymer, polyimide sru, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 129401-97-4DP, 4,4'-Bis(3-aminophenoxy)biphenyl-2,2-bis(3,4-dicarboxyphenyl)hexafluoropropane dianhydride copolymer, polyimide sru, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 129734-22-1DP, 3,3',4,4'-Biphenyltetracarboxylic acid anhydride-bis[4-(3-aminophenoxy)phenyl]ketone copolymer, polyimide sru, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 181769-32-0DP, Bis[4-(3-aminophenoxy)phenyl]ether-1,4-bis(3,4-dicarboxyphenoxy)benzene dianhydride copolymer, polyimide sru, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 292856-94-1DP, 4,4'-Bis(3-aminophenoxy)biphenyl-2,2-bis[(3,4-dicarboxyphenoxy)phenyl]propane dianhydride copolymer, polyimide sru, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 292856-97-4DP, 4,4'-Bis(3-aminophenoxy)biphenyl-bis(3,4-dicarboxyphenyl) sulfide dianhydride copolymer, polyimide sru, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 292857-05-7DP, Bis[4-(3-aminophenoxy)phenyl]ketone-1,3-bis(3,4-dicarboxyphenoxy)benzene dianhydride copolymer, polyimide sru, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 292857-13-7DP, 3,3',4,4'-Biphenyltetracarboxylic acid anhydride-2,2-bis[3-(3-aminophenoxy)phenyl]propane copolymer, polyimide sru, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 292857-15-9DP, 2,2-Bis[3-(3-aminophenoxy)phenyl]propane-2,2-bis[(3,4-dicarboxyphenoxy)phenyl]propane dianhydride copolymer, polyimide sru, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 292857-17-1DP, 2,2-Bis[3-(3-aminophenoxy)phenyl]propane-1,4-bis(3,4-dicarboxyphenoxy)benzene dianhydride copolymer, polyimide sru, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 292857-21-7DP, 3,3',4,4'-Biphenyltetracarboxylic acid anhydride-2,2-bis[3-(3-aminophenoxy)phenyl]-1,1,1,3,3,3-hexafluoropropane copolymer, polyimide sru, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 292857-27-3DP, 3,3',4,4'-Benzophenonetetracarboxylic dianhydride-2,2-bis[3-(3-aminophenoxy)phenyl]-1,1,1,3,3,3-hexafluoropropane copolymer, polyimide sru, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 292857-30-8DP, 2,2-Bis[3-(3-aminophenoxy)phenyl]-1,1,1,3,3,3-hexafluoropropane-3,3',4,4'-diphenyl ether tetracarboxylic dianhydride copolymer, polyimide sru, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 292857-35-3DP, Bis[4-(3-aminophenoxy)phenyl]ether-2,2-bis(3,4-dicarboxyphenyl)hexafluoropropane dianhydride copolymer, polyimide sru, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 292857-39-7DP, Bis[4-(3-aminophenoxy)phenyl]ether-2,2-bis[(3,4-dicarboxyphenoxy)phenyl]propane dianhydride copolymer, polyimide sru, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 292857-43-3DP, Bis[4-(3-aminophenoxy)phenyl]ether-bis(3,4-dicarboxyphenyl)sulfide dianhydride

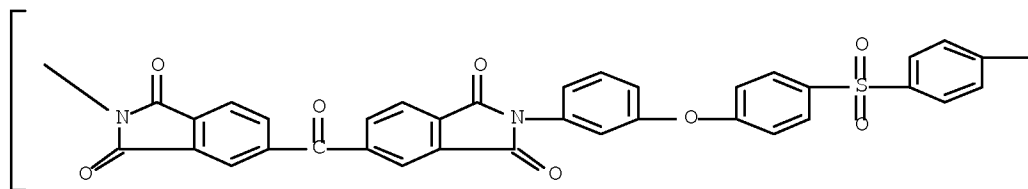
copolymer, polyimide sru, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 292857-48-8DP, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 292857-50-2DP, 2,2-Bis[3-(3-aminophenoxy)phenyl]propane-2,2-bis(3,4-dicarboxyphenyl)hexafluoropropane dianhydride copolymer, polyimide sru, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 292857-52-4DP, 2,2-Bis[3-(3-aminophenoxy)phenyl]-1,1,1,3,3,3-hexafluoropropane-2,2-bis[(3,4-dicarboxyphenoxy)phenyl]propane dianhydride copolymer, polyimide sru, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 292857-54-6DP, 3,3',4,4'-Benzophenonetetracarboxylic dianhydride-2,2-bis[3-(3-aminophenoxy)phenyl]propane copolymer, polyimide sru, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride

(thermoplastic polyimide heat-resistant adhesives containing crosslinkable acetylene terminal groups)

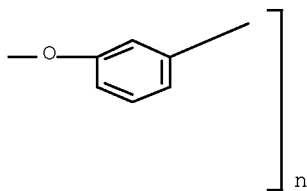
RN 52004-08-7 HCAPLUS

CN Poly[(1,3-dihydro-1,3-dioxo-2H-isoindole-2,5-diyl)carbonyl(1,3-dihydro-1,3-dioxo-2H-isoindole-5,2-diyl)-1,3-phenyleneoxy-1,4-phenylenesulfonyl-1,4-phenyleneoxy-1,3-phenylene] (CA INDEX NAME)

PAGE 1-A



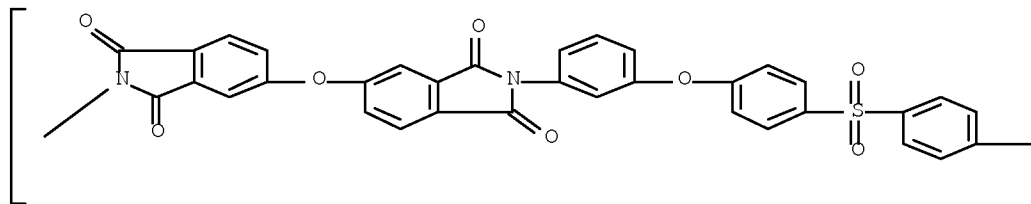
PAGE 1-B



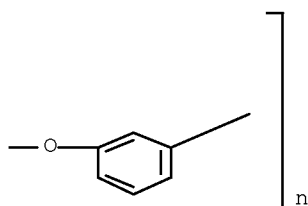
RN 74970-14-2 HCAPLUS

CN Poly[(1,3-dihydro-1,3-dioxo-2H-isoindole-2,5-diyl)oxy(1,3-dihydro-1,3-dioxo-2H-isoindole-5,2-diyl)-1,3-phenyleneoxy-1,4-phenylenesulfonyl-1,4-phenyleneoxy-1,3-phenylene] (9CI) (CA INDEX NAME)

PAGE 1-A

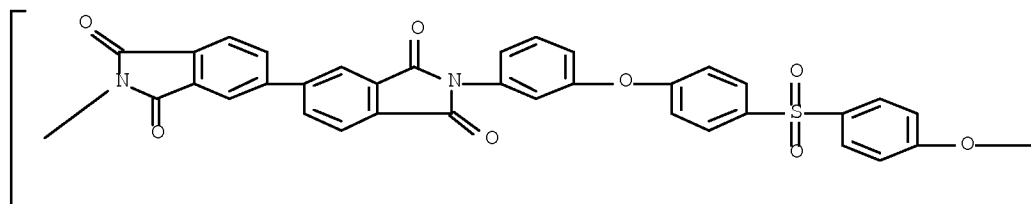


PAGE 1-B

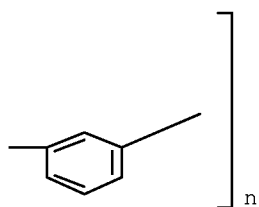


RN 95908-18-2 HCAPLUS  
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 2,2'-diyl)-1,3-phenyleneoxy-1,4-phenylenesulfonyl-1,4-phenyleneoxy-1,3-  
 phenylene] (CA INDEX NAME)

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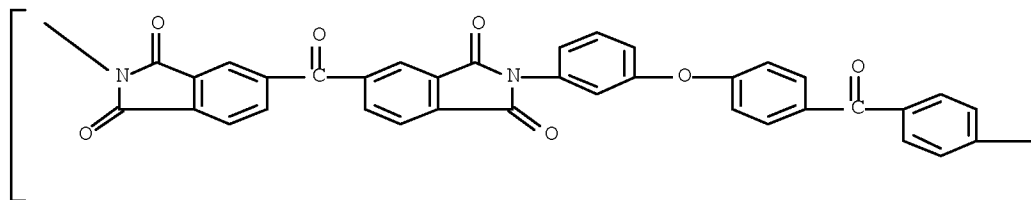


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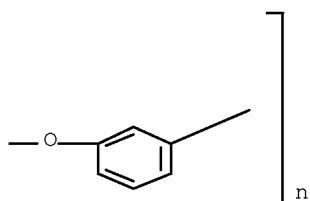
10/531,629

1,3-dioxo-2H-isoindole-5,2-diyl)-1,3-phenyleneoxy-1,4-phenylenecarbonyl-1,4-phenyleneoxy-1,3-phenylene] (9CI) (CA INDEX NAME)

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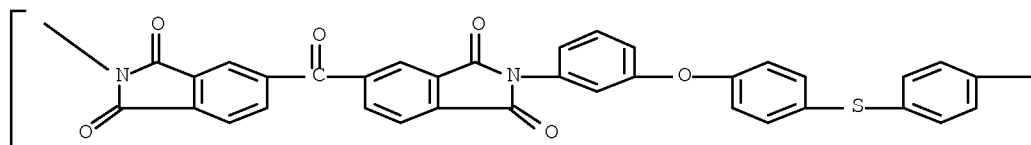
PAGE 1-B



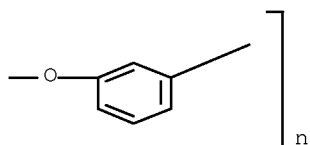
RN 110563-83-2 HCAPLUS

CN Poly[(1,3-dihydro-1,3-dioxo-2H-isoindole-2,5-diyl)carbonyl(1,3-dihydro-1,3-dioxo-2H-isoindole-5,2-diyl)-1,3-phenyleneoxy-1,4-phenylenethio-1,4-phenyleneoxy-1,3-phenylene] (9CI) (CA INDEX NAME)

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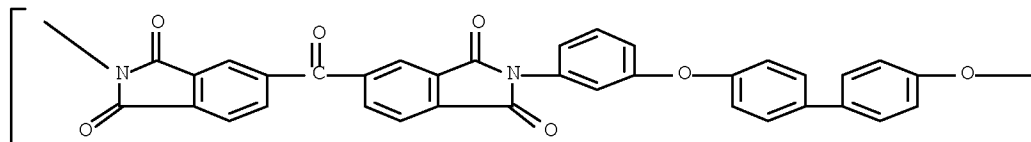
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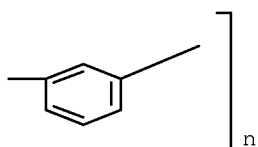
RN 110563-85-4 HCAPLUS

CN Poly[(1,3-dihydro-1,3-dioxo-2H-isoindole-2,5-diyl)carbonyl(1,3-dihydro-1,3-dioxo-2H-isoindole-5,2-diyl)-1,3-phenyleneoxy[1,1'-biphenyl]-4,4'-diyloxy-1,3-phenylene] (CA INDEX NAME)

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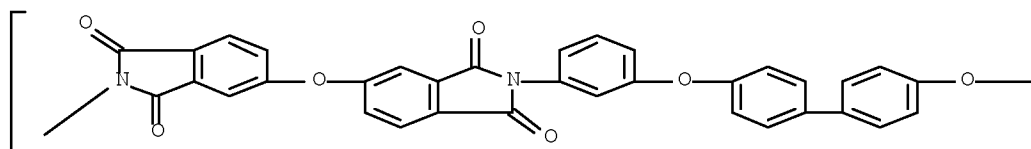
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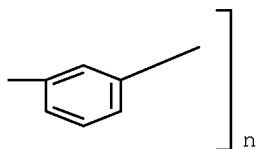
RN 110563-86-5 HCAPLUS

CN Poly[(1,3-dihydro-1,3-dioxo-2H-isoindole-2,5-diyl)oxy(1,3-dihydro-1,3-dioxo-2H-isoindole-5,2-diyl)-1,3-phenyleneoxy[1,1'-biphenyl]-4,4'-diyloxy-1,3-phenylene] (CA INDEX NAME)

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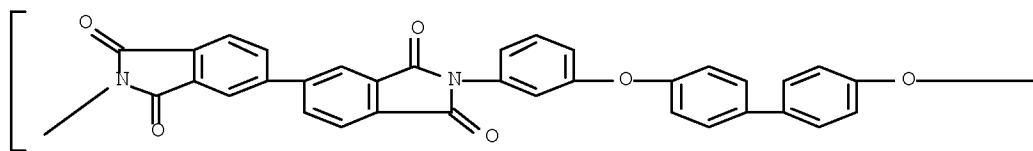
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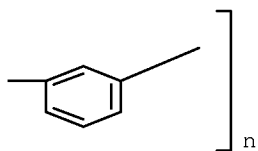
RN 116964-65-9 HCAPLUS

CN Poly[(1,1',3,3'-tetrahydro-1,1',3,3'-tetraoxo[5,5'-bi-2H-isoindole]-2,2'-diyl)-1,3-phenyleneoxy[1,1'-biphenyl]-4,4'-diyloxy-1,3-phenylene] (9CI) (CA INDEX NAME)

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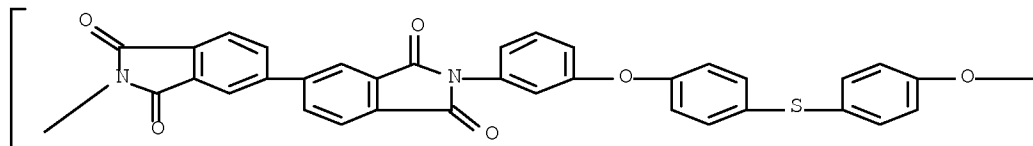


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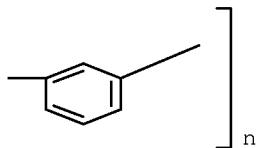


RN 116964-66-0 HCAPLUS  
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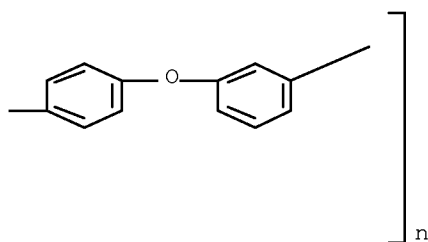
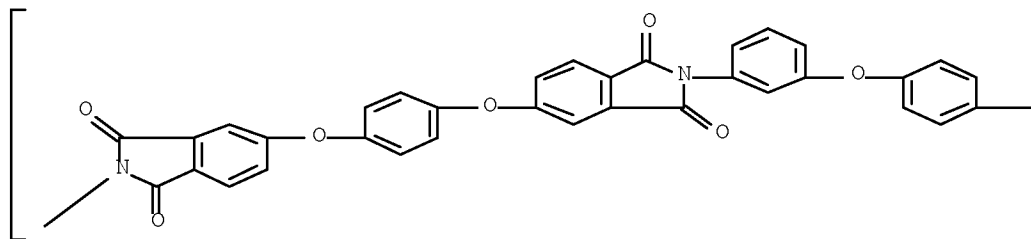


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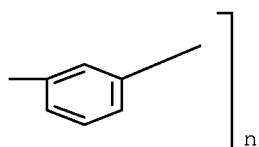
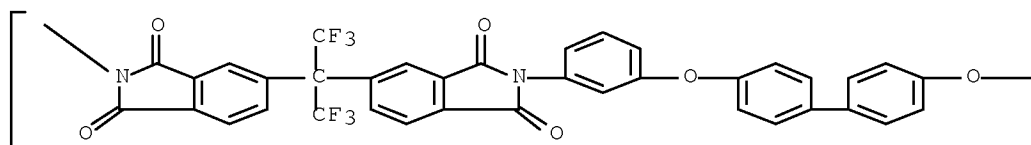


RN 117548-00-2 HCAPLUS  
 CN Poly[(1,3-dihydro-1,3-dioxo-2H-isoindole-2,5-diyl)oxy-1,4-phenyleneoxy(1,3-dihydro-1,3-dioxo-2H-isoindole-5,2-diyl)-1,3-phenyleneoxy[1,1'-biphenyl]-4,4'-diyloxy-1,3-phenylene] (9CI) (CA INDEX NAME)





RN 129401-97-4 HCAPLUS  
 CN Poly[(1,3-dihydro-1,3-dioxo-2H-isoindole-2,5-diyl)[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene](1,3-dihydro-1,3-dioxo-2H-isoindole-5,2-diyl)-1,3-phenyleneoxy[1,1'-biphenyl]-4,4'-diyloxy-1,3-phenylene]  
 (9CI) (CA INDEX NAME)

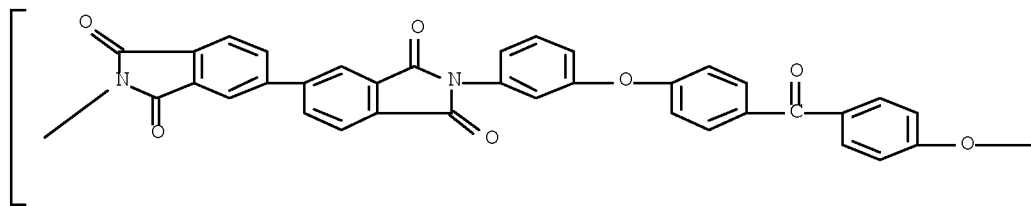


RN 129734-22-1 HCAPLUS

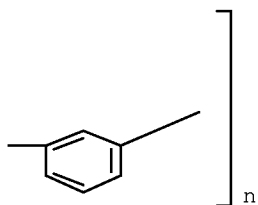
10/531,629

CN Poly[(1,1',3,3'-tetrahydro-1,1',3,3'-tetraoxo[5,5'-bi-2H-isoindole]-2,2'-diyl)-1,3-phenyleneoxy-1,4-phenylenecarbonyl-1,4-phenyleneoxy-1,3-phenylene] (9CI) (CA INDEX NAME)

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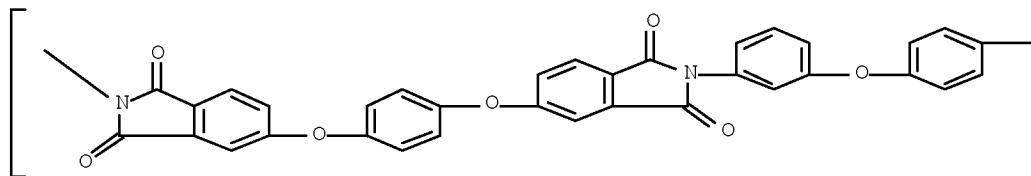
PAGE 1-B



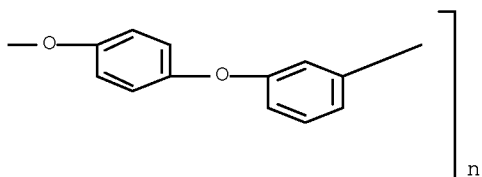
RN 181709-32-0 HCAPLUS

CN Poly[(1,3-dihydro-1,3-dioxo-2H-isoindole-2,5-diyl)oxy-1,4-phenyleneoxy(1,3-dihydro-1,3-dioxo-2H-isoindole-5,2-diyl)-1,3-phenyleneoxy-1,4-phenyleneoxy-1,4-phenyleneoxy-1,3-phenylene] (9CI) (CA INDEX NAME)

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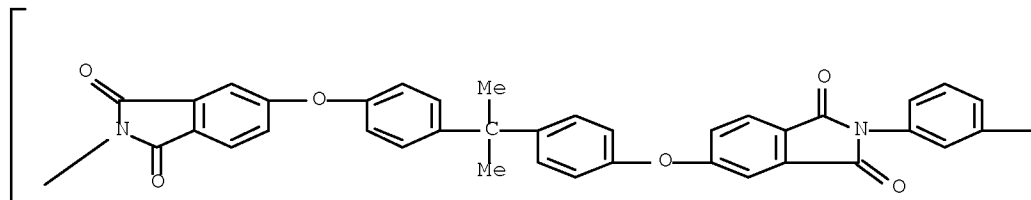
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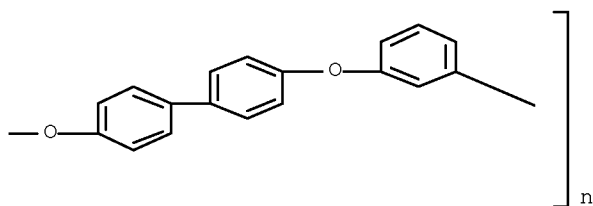
RN 292856-94-1 HCAPLUS

CN Poly[(1,3-dihydro-1,3-dioxo-2H-isoindole-2,5-diyl)oxy-1,4-phenylene(1-methylethylidene)-1,4-phenyleneoxy(1,3-dihydro-1,3-dioxo-2H-isoindole-5,2-diyl)-1,3-phenyleneoxy[1,1'-biphenyl]-4,4'-diyloxy-1,3-phenylene]  
(9CI) (CA INDEX NAME)

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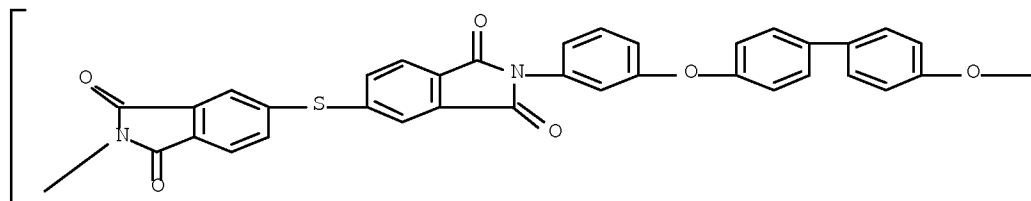
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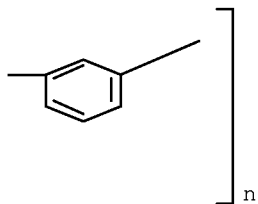


RN 292856-97-4 HCAPLUS

CN Poly[(1,3-dihydro-1,3-dioxo-2H-isoindole-2,5-diyl)thio(1,3-dihydro-1,3-dioxo-2H-isoindole-5,2-diyl)-1,3-phenyleneoxy[1,1'-biphenyl]-4,4'-diyloxy-1,3-phenylene] (9CI) (CA INDEX NAME)

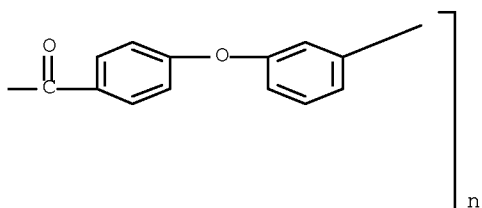
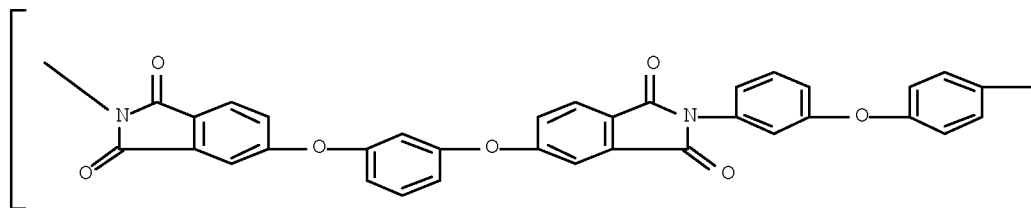
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RN 292857-05-7 HCAPLUS

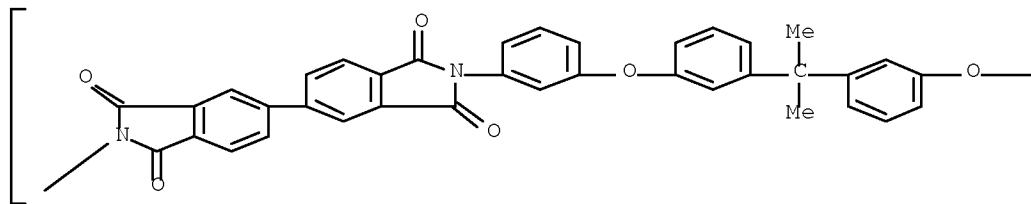
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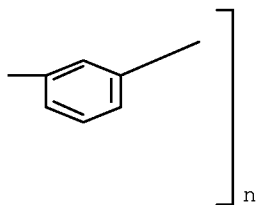
RN 292857-13-7 HCAPLUS

CN Poly[(1,1',3,3'-tetrahydro-1,1',3,3'-tetraoxo[5,5'-bi-2H-isoindole]-2,2'-diyl)-1,3-phenyleneoxy-1,3-phenylene(1-methylethylidene)-1,3-phenyleneoxy-1,3-phenylene] (9CI) (CA INDEX NAME)

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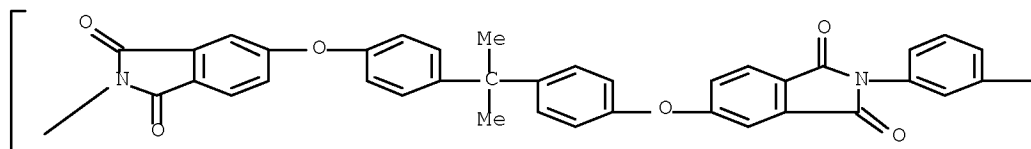
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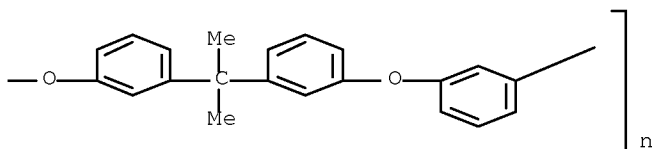
RN 292857-15-9 HCAPLUS

CN Poly[(1,3-dihydro-1,3-dioxo-2H-isoindole-2,5-diyl)oxy-1,4-phenylene(1-methylethylidene)-1,4-phenyleneoxy(1,3-dihydro-1,3-dioxo-2H-isoindole-5,2-diyl)-1,3-phenyleneoxy-1,3-phenylene(1-methylethylidene)-1,3-phenyleneoxy-1,3-phenylene] (9CI) (CA INDEX NAME)

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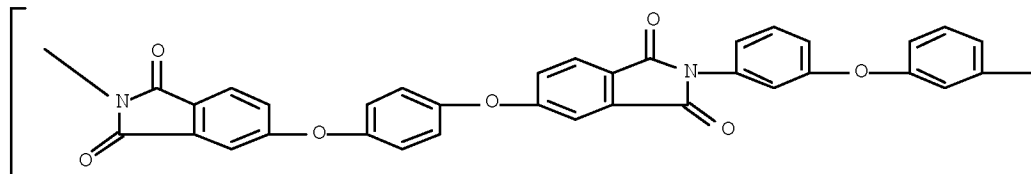
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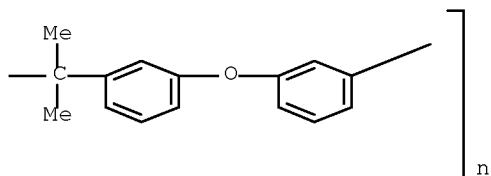
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CN Poly[(1,3-dihydro-1,3-dioxo-2H-isoindole-2,5-diyl)oxy-1,4-phenyleneoxy(1,3-dihydro-1,3-dioxo-2H-isoindole-5,2-diyl)-1,3-phenyleneoxy-1,3-phenylene(1-methylethylidene)-1,3-phenyleneoxy-1,3-phenylene] (9CI) (CA INDEX NAME)

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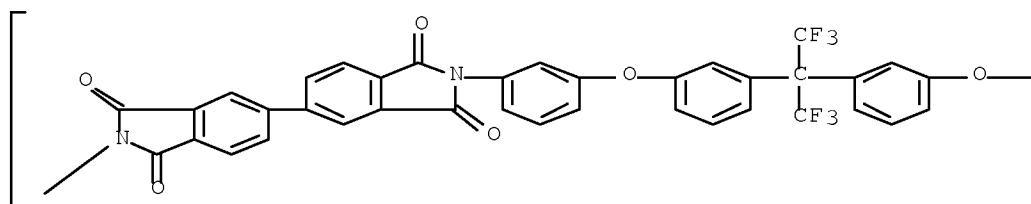


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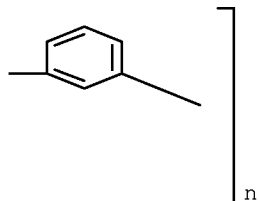


RN 292857-21-7 HCAPLUS  
 CN Poly[(1,1',3,3'-tetrahydro-1,1',3,3'-tetraoxo[5,5'-bi-2H-isoindole]-  
 2,2'-diyl)-1,3-phenyleneoxy-1,3-phenylene[2,2,2-trifluoro-1-  
 (trifluoromethyl)ethylidene]-1,3-phenyleneoxy-1,3-phenylene] (9CI)  
 (CA INDEX NAME)

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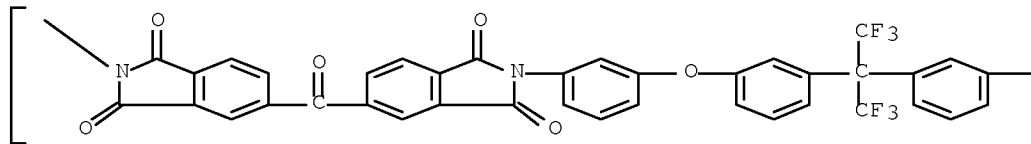
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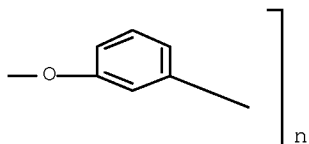
RN 292857-27-3 HCAPLUS

CN Poly[(1,3-dihydro-1,3-dioxo-2H-isoindole-2,5-diyl)carbonyl(1,3-dihydro-1,3-dioxo-2H-isoindole-5,2-diyl)-1,3-phenyleneoxy-1,3-phenylene[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]-1,3-phenyleneoxy-1,3-phenylene] (9CI) (CA INDEX NAME)

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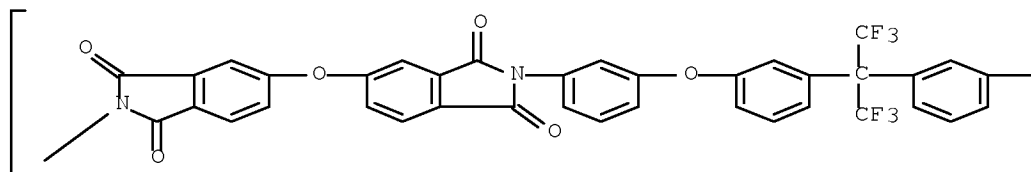
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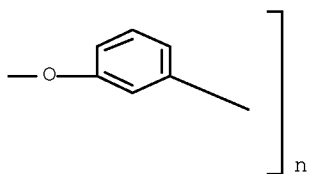
RN 292857-30-8 HCAPLUS

CN Poly[(1,3-dihydro-1,3-dioxo-2H-isoindole-2,5-diyl)oxy(1,3-dihydro-1,3-dioxo-2H-isoindole-5,2-diyl)-1,3-phenyleneoxy-1,3-phenylene[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]-1,3-phenyleneoxy-1,3-phenylene] (9CI) (CA INDEX NAME)

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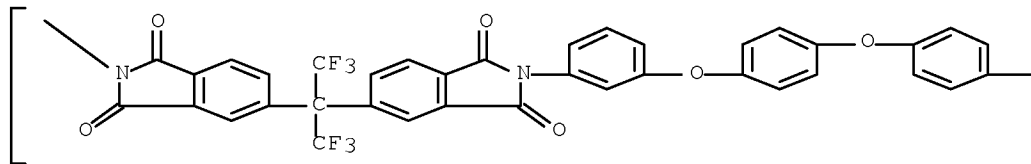
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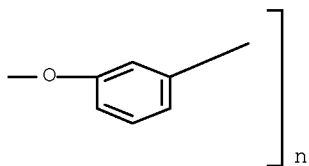
RN 292857-35-3 HCAPLUS

CN Poly[(1,3-dihydro-1,3-dioxo-2H-isoindole-2,5-diyl)[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene](1,3-dihydro-1,3-dioxo-2H-isoindole-5,2-diyl)-1,3-phenyleneoxy-1,4-phenyleneoxy-1,4-phenyleneoxy-1,3-phenylene] (9CI) (CA INDEX NAME)

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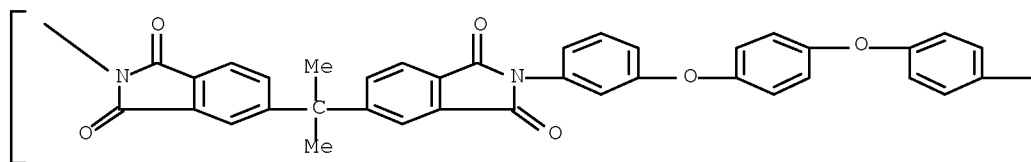
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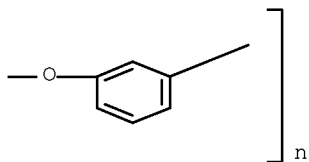
RN 292857-39-7 HCAPLUS

CN Poly[(1,3-dihydro-1,3-dioxo-2H-isoindole-2,5-diyl)(1-methylethylidene)(1,3-dihydro-1,3-dioxo-2H-isoindole-5,2-diyl)-1,3-phenyleneoxy-1,4-phenyleneoxy-1,4-phenyleneoxy-1,3-phenylene] (9CI) (CA INDEX NAME)

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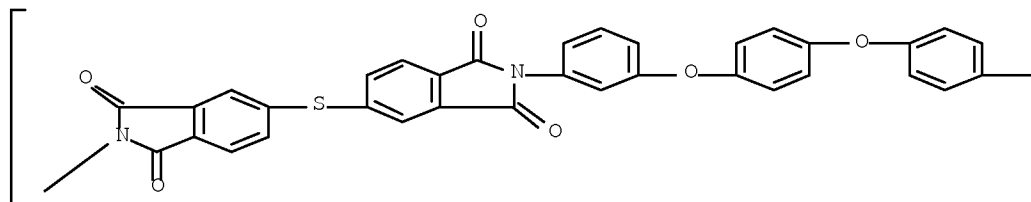




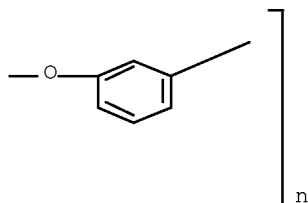
RN 292857-43-3 HCAPLUS

CN Poly[(1,3-dihydro-1,3-dioxo-2H-isoindole-2,5-diyl)thio(1,3-dihydro-1,3-dioxo-2H-isoindole-5,2-diyl)-1,3-phenyleneoxy-1,4-phenyleneoxy-1,4-phenyleneoxy-1,3-phenylene] (9CI) (CA INDEX NAME)

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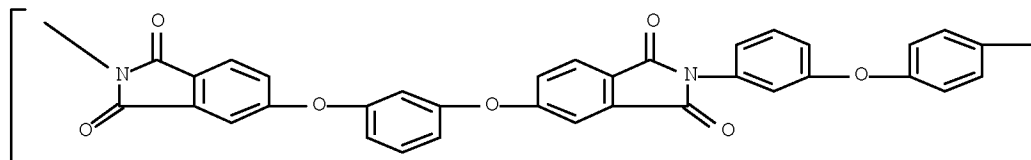
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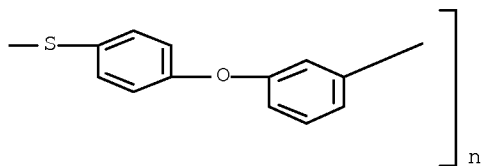


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CN Poly[(1,3-dihydro-1,3-dioxo-2H-isoindole-2,5-diyl)oxy-1,3-phenyleneoxy(1,3-dihydro-1,3-dioxo-2H-isoindole-5,2-diyl)-1,3-phenyleneoxy-1,4-phenylenethio-1,4-phenyleneoxy-1,3-phenylene] (9CI) (CA INDEX NAME)

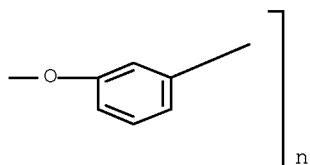
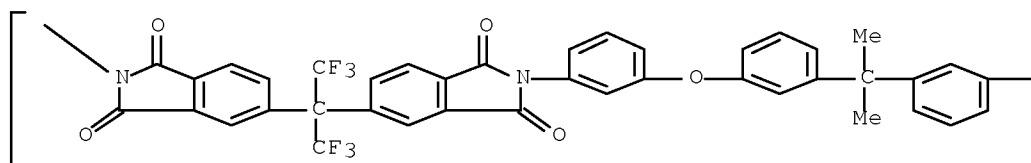
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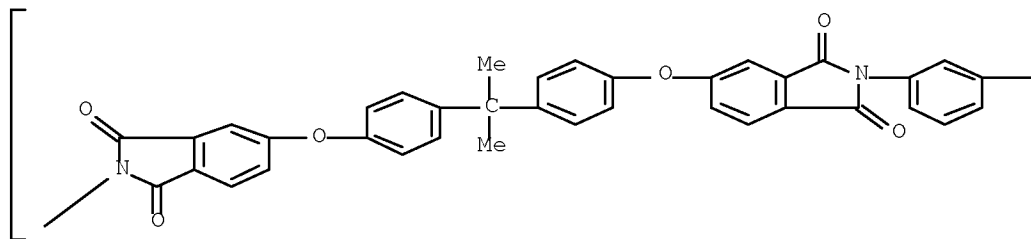
CN Poly[(1,3-dihydro-1,3-dioxo-2H-isoindole-2,5-diyl)[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene](1,3-dihydro-1,3-dioxo-2H-isoindole-5,2-diyl)-1,3-phenyleneoxy-1,3-phenylene(1-methylethylidene)-1,3-phenyleneoxy-1,3-phenylene] (9CI) (CA INDEX NAME)



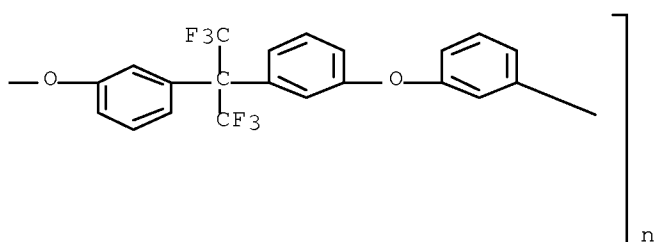
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CN Poly[(1,3-dihydro-1,3-dioxo-2H-isoindole-2,5-diyl)oxy-1,4-phenylene(1-methylethylidene)-1,4-phenyleneoxy(1,3-dihydro-1,3-dioxo-2H-isoindole-5,2-diyl)-1,3-phenyleneoxy-1,3-phenylene[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]-1,3-phenyleneoxy-1,3-phenylene] (9CI) (CA INDEX NAME)

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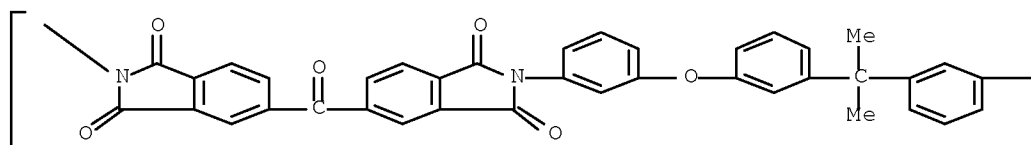


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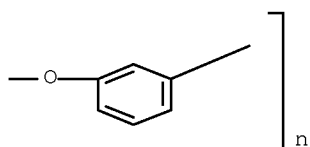


RN 292857-54-6 HCAPLUS  
 CN Poly[(1,3-dihydro-1,3-dioxo-2H-isoindole-2,5-diyl)carbonyl(1,3-dihydro-1,3-dioxo-2H-isoindole-5,2-diyl)-1,3-phenyleneoxy-1,3-phenylene(1-methylethylidene)-1,3-phenyleneoxy-1,3-phenylene] (9CI) (CA INDEX NAME)

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IC ICM C09J179-08

- ICS C08G073-10
- CC 38-3 (Plastics Fabrication and Uses)  
Section cross-reference(s): 35
- ST Thermoplastic polyimide heat resistant adhesive; polyamic acid crosslinkable acetylene polyimide adhesive; acetylene terminal blocking agent polyamic acid polyimide adhesive
- IT Adhesives  
(heat-resistant; thermoplastic polyimide heat-resistant adhesives containing crosslinkable acetylene terminal groups)
- IT Polyamic acids  
(precursor of polyimides; thermoplastic polyimide heat-resistant adhesives containing crosslinkable acetylene terminal groups)
- IT Polyimides, uses  
(thermoplastic polyimide heat-resistant adhesives containing crosslinkable acetylene terminal groups)
- IT Adhesives  
(thermoplastic; thermoplastic polyimide heat-resistant adhesives containing crosslinkable acetylene terminal groups)
- IT 105156-69-2DP, 4,4'-Bis(3-aminophenoxy)biphenyl-pyromellitic dianhydride copolymer polyamic sru, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride  
(105156-69-2; thermoplastic polyimide heat-resistant adhesives containing crosslinkable acetylene terminal groups)
- IT 85-44-9, 1,3-Isobenzofurandione 119389-05-8, 2-(3,4-Dicarboxyphenyl)-1-phenylacetylene anhydride 159507-09-2 186612-18-0 258288-68-5  
(terminal blocking agent; thermoplastic polyimide heat-resistant adhesives containing crosslinkable acetylene terminal groups)
- IT 52004-08-7DP, 3,3',4,4'-Benzophenonetetracarboxylic dianhydride-bis[4-(3-aminophenoxy)phenyl] sulfone copolymer, polyimide sru, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 52004-61-2DP, 3,3',4,4'-Benzophenonetetracarboxylic dianhydride-bis[4-(3-aminophenoxy)phenyl]sulfone copolymer, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 58912-81-5DP, Bis[4-(3-aminophenoxy)phenyl] sulfone-3,3',4,4'-diphenyl ether tetracarboxylic dianhydride copolymer, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 74951-85-2DP, Bis[4-(3-aminophenoxy)phenyl]sulfone-pyromellitic dianhydride copolymer, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 74970-08-4DP, Bis[4-(3-aminophenoxy)phenyl]sulfone-pyromellitic dianhydride copolymer, polyimide sru, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 74970-14-2DP, Bis[4-(3-aminophenoxy)phenyl] sulfone-3,3',4,4'-diphenyl ether tetracarboxylic dianhydride copolymer, polyimide sru, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 77945-58-5DP, 3,3',4,4'-Benzophenonetetracarboxylic dianhydride-bis[4-(3-aminophenoxy)phenyl]sulfide copolymer, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 77967-33-0DP, 3,3',4,4'-Benzophenonetetracarboxylic dianhydride-bis[4-(3-aminophenoxy)phenyl]ketone copolymer, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 79303-35-8DP, 3,3',4,4'-Benzophenonetetracarboxylic dianhydride-bis[4-(3-aminophenoxy)phenyl] sulfone copolymer, polyamic

sru, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 95831-31-5DP, 3,3',4,4'-Biphenyltetracarboxylic acid anhydride-bis[4-(3-aminophenoxy)phenyl] sulfone copolymer, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 95908-18-2DP, 3,3',4,4'-Biphenyltetracarboxylic acid anhydride-bis[4-(3-aminophenoxy)phenyl] sulfone copolymer, polyimide sru, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 105156-70-5DP, Bis[4-(3-aminophenoxy)phenyl]sulfone-pyromellitic dianhydride copolymer, polyamic sru, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 105156-73-8DP, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 105218-97-1DP, 4,4'-Bis(3-aminophenoxy)biphenyl-pyromellitic dianhydride copolymer, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 105359-94-2DP, 4,4'-Bis(3-aminophenoxy)biphenyl-pyromellitic dianhydride copolymer polyimide sru, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 105359-95-3DP, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 106907-33-9DP, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 110563-83-2DP, 3,3',4,4'-Benzophenonetetracarboxylic dianhydride-bis[4-(3-aminophenoxy)phenyl]sulfide copolymer, polyimide sru, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 110563-85-4DP, 3,3',4,4'-Benzophenonetetracarboxylic dianhydride-4,4'-bis(3-aminophenoxy)biphenyl copolymer, polyimide sru, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 110563-86-5DP, 4,4'-Bis(3-aminophenoxy)biphenyl-3,3',4,4'-diphenyl ether tetracarboxylic dianhydride copolymer, polyimide sru, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 110586-39-5DP, 3,3',4,4'-Benzophenonetetracarboxylic dianhydride-4,4'-bis(3-aminophenoxy)biphenyl copolymer, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 110586-40-8DP, 4,4'-Bis(3-aminophenoxy)biphenyl-3,3',4,4'-diphenyl ether tetracarboxylic dianhydride copolymer, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 110615-95-7DP, 4,4'-Bis(3-aminophenoxy)biphenyl-3,3',4,4'-diphenyl ether tetracarboxylic dianhydride copolymer, polyamic sru, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 110615-97-9DP, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 110615-98-0DP, 3,3',4,4'-Benzophenonetetracarboxylic dianhydride-bis[4-(3-aminophenoxy)phenyl]sulfide copolymer, polyamic sru, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 110749-59-2DP, 4,4'-Bis(3-aminophenoxy)biphenyl-4,4'-diaminodiphenyl ether-pyromellitic dianhydride copolymer, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 116958-32-8DP, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 116958-33-9DP, 3,3',4,4'-Biphenyltetracarboxylic acid anhydride-bis[4-(3-aminophenoxy)phenyl]sulfide copolymer, polyamic sru, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 116964-54-6DP, 3,3',4,4'-Biphenyltetracarboxylic acid anhydride-bis[4-(3-aminophenoxy)phenyl]sulfide copolymer, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic

acid anhydride 116964-55-7DP, 3,3',4,4'-Biphenyltetracarboxylic acid dianhydride-4,4'-bis(3-aminophenoxy)biphenyl copolymer, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 116964-65-9DP, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 116964-66-0DP, 3,3',4,4'-Biphenyltetracarboxylic acid anhydride-bis[4-(3-aminophenoxy)phenyl]sulfide copolymer, polyimide sru, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 117501-11-8DP, 4,4'-Bis(3-aminophenoxy)biphenyl-1,4-bis(3,4-dicarboxyphenoxy)benzene dianhydride copolymer, polyamic sru, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 117547-82-7DP, 4,4'-Bis(3-aminophenoxy)biphenyl;1,4-bis(3,4-dicarboxyphenoxy)benzene dianhydride copolymer, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 117548-00-2DP, 4,4'-Bis(3-aminophenoxy)biphenyl-1,4-bis(3,4-dicarboxyphenoxy)benzene dianhydride copolymer, polyimide sru, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 118547-03-8DP, 3,3',4,4'-Biphenyltetracarboxylic acid anhydride-bis[4-(3-aminophenoxy)phenyl]ketone copolymer, polyamic sru, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 129401-96-3DP, 4,4'-Bis(3-aminophenoxy)biphenyl-2,2-bis(3,4-dicarboxyphenyl)hexafluoropropane dianhydride copolymer, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 129401-97-4DP, 4,4'-Bis(3-aminophenoxy)biphenyl-2,2-bis(3,4-dicarboxyphenyl)hexafluoropropane dianhydride copolymer, polyimide sru, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 129734-22-1DP, 3,3',4,4'-Biphenyltetracarboxylic acid anhydride-bis[4-(3-aminophenoxy)phenyl]ketone copolymer, polyimide sru, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 129766-07-0DP, 3,3',4,4'-Biphenyltetracarboxylic acid anhydride-bis[4-(3-aminophenoxy)phenyl]ketone copolymer, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 149175-13-3DP, 4,4'-Bis(3-aminophenoxy)biphenyl-2,2-bis(3,4-dicarboxyphenyl)hexafluoropropane dianhydride copolymer, polyamic sru, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 155912-62-2DP, 3,3',4,4'-Biphenyltetracarboxylic acid anhydride-4,4'-bis(3-aminophenoxy)biphenyl-pyromellitic dianhydride copolymer, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 166515-30-6DP, Bis[4-(3-aminophenoxy)phenyl] sulfone-3,3',4,4'-diphenyl ether tetracarboxylic dianhydride copolymer, polyamic sru, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 181709-29-5DP, Bis[4-(3-aminophenoxy)phenyl]ether-1,4-bis(3,4-dicarboxyphenoxy)benzene dianhydride copolymer, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 181709-32-0DP, Bis[4-(3-aminophenoxy)phenyl]ether-1,4-bis(3,4-dicarboxyphenoxy)benzene dianhydride copolymer, polyimide sru, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 189460-29-5DP, 4,4'-Bis(3-aminophenoxy)biphenyl-1,4,5,8-naphthalenetetracarboxylic dianhydride copolymer, polyamic sru, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 258288-02-7DP, 2,2-Bis[3-(3-aminophenoxy)phenyl]-1,1,1,3,3,3-hexafluoropropane-pyromellitic dianhydride copolymer, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid

anhydride 258288-27-6DP, 2,2-Bis[3-(3-aminophenoxy)phenyl]-1,1,1,3,3,3-hexafluoropropane-pyromellitic dianhydride copolymer, polyimide sru, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 292856-93-0DP, 4,4'-Bis(3-aminophenoxy)biphenyl; 2,2-bis[(3,4-dicarboxyphenoxy)phenyl]propane dianhydride copolymer, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 292856-94-1DP, 4,4'-Bis(3-aminophenoxy)biphenyl-2,2-bis[(3,4-dicarboxyphenoxy)phenyl]propane dianhydride copolymer, polyimide sru, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 292856-96-3DP, 4,4'-Bis(3-aminophenoxy)biphenyl; bis(3,4-dicarboxyphenyl) sulfide dianhydride copolymer, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 292856-97-4DP, 4,4'-Bis(3-aminophenoxy)biphenyl-bis(3,4-dicarboxyphenyl) sulfide dianhydride copolymer, polyimide sru, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 292856-98-5DP, 4,4'-Bis(3-aminophenoxy)biphenyl-1,4,5,8-naphthalenetetracarboxylic dianhydride copolymer, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 292856-99-6DP, 4,4'-Bis(3-aminophenoxy)biphenyl-1,4,5,8-naphthalenetetracarboxylic dianhydride copolymer, polyimide sru, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 292857-04-6DP, Bis[4-(3-aminophenoxy)phenyl]ketone; 1,3-bis(3,4-dicarboxyphenoxy)benzene dianhydride copolymer, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 292857-05-7DP, Bis[4-(3-aminophenoxy)phenyl]ketone-1,3-bis(3,4-dicarboxyphenoxy)benzene dianhydride copolymer, polyimide sru, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 292857-09-1DP, 2,2-Bis[3-(3-aminophenoxy)phenyl]propane-pyromellitic dianhydride copolymer, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 292857-10-4DP, 2,2-Bis[3-(3-aminophenoxy)phenyl]propane-pyromellitic dianhydride copolymer, polyimide sru, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 292857-11-5DP, 3,3',4,4'-Biphenyltetracarboxylic acid anhydride-2,2-bis[3-(3-aminophenoxy)phenyl]propane copolymer, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 292857-13-7DP, 3,3',4,4'-Biphenyltetracarboxylic acid anhydride-2,2-bis[3-(3-aminophenoxy)phenyl]propane copolymer, polyimide sru, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 292857-14-8DP, 2,2-Bis[3-(3-aminophenoxy)phenyl]propane-2,2-bis[(3,4-dicarboxyphenoxy)phenyl]propane dianhydride copolymer, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 292857-15-9DP, 2,2-Bis[3-(3-aminophenoxy)phenyl]propane-2,2-bis[(3,4-dicarboxyphenoxy)phenyl]propane dianhydride copolymer, polyimide sru, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 292857-16-0DP, 2,2-Bis[3-(3-aminophenoxy)phenyl]propane-1,4-bis(3,4-dicarboxyphenoxy)benzene dianhydride copolymer, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 292857-17-1DP, 2,2-Bis[3-(3-aminophenoxy)phenyl]propane-1,4-bis(3,4-dicarboxyphenoxy)benzene dianhydride copolymer, polyimide sru, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 292857-19-3DP, 3,3',4,4'-Biphenyltetracarboxylic acid anhydride-2,2-bis[3-(3-aminophenoxy)phenyl]-1,1,1,3,3,3-

hexafluoropropane copolymer, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 292857-21-7DP, 3,3',4,4'-Biphenyltetracarboxylic acid anhydride-2,2-bis[3-(3-aminophenoxy)phenyl]-1,1,1,3,3,3-hexafluoropropane copolymer, polyimide sru, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 292857-25-1DP, 3,3',4,4'-Benzophenonetetracarboxylic dianhydride-2,2-bis[3-(3-aminophenoxy)phenyl]-1,1,1,3,3,3-hexafluoropropane copolymer, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 292857-27-3DP, 3,3',4,4'-Benzophenonetetracarboxylic dianhydride-2,2-bis[3-(3-aminophenoxy)phenyl]-1,1,1,3,3,3-hexafluoropropane copolymer, polyimide sru, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 292857-28-4DP, 2,2-Bis[3-(3-aminophenoxy)phenyl]-1,1,1,3,3,3-hexafluoropropane-3,3',4,4'-diphenyl ether tetracarboxylic dianhydride copolymer, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 292857-30-8DP, 2,2-Bis[3-(3-aminophenoxy)phenyl]-1,1,1,3,3,3-hexafluoropropane-3,3',4,4'-diphenyl ether tetracarboxylic dianhydride copolymer, polyimide sru, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 292857-32-0DP, Bis[4-(3-aminophenoxy)phenyl]ether-2,2-bis(3,4-dicarboxyphenyl)hexafluoropropane dianhydride copolymer, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 292857-35-3DP, Bis[4-(3-aminophenoxy)phenyl]ether-2,2-bis(3,4-dicarboxyphenyl)hexafluoropropane dianhydride copolymer, polyimide sru, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 292857-37-5DP, Bis[4-(3-aminophenoxy)phenyl]ether-2,2-bis[(3,4-dicarboxyphenoxy)phenyl]propane dianhydride copolymer, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 292857-39-7DP, Bis[4-(3-aminophenoxy)phenyl]ether-2,2-bis[(3,4-dicarboxyphenoxy)phenyl]propane dianhydride copolymer, polyimide sru, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 292857-41-1DP, Bis[4-(3-aminophenoxy)phenyl]ether-bis(3,4-dicarboxyphenyl)sulfide dianhydride copolymer, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 292857-43-3DP, Bis[4-(3-aminophenoxy)phenyl]ether-bis(3,4-dicarboxyphenyl)sulfide dianhydride copolymer, polyimide sru, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 292857-44-4DP, Bis[4-(3-aminophenoxy)phenyl]sulfide-1,4,5,8-naphthalenetetracarboxylic dianhydride copolymer, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 292857-45-5DP, Bis[4-(3-aminophenoxy)phenyl]sulfide-1,4,5,8-naphthalenetetracarboxylic dianhydride copolymer, polyimide sru, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 292857-47-7DP, Bis[4-(3-aminophenoxy)phenyl]sulfide-1,3-bis(3,4-dicarboxyphenoxy)benzene dianhydride copolymer, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 292857-48-8DP, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 292857-49-9DP, 2,2-Bis[3-(3-aminophenoxy)phenyl]propane-2,2-bis(3,4-dicarboxyphenyl)hexafluoropropane dianhydride copolymer, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 292857-50-2DP, 2,2-Bis[3-(3-aminophenoxy)phenyl]propane-2,2-bis(3,4-dicarboxyphenyl)hexafluoropropane dianhydride copolymer, polyimide sru, reaction product with



dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 292857-51-3DP, 2,2-Bis[3-(3-aminophenoxy)phenyl]-1,1,1,3,3,3-hexafluoropropane-2,2-bis[(3,4-dicarboxyphenoxy)phenyl]propane dianhydride copolymer, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 292857-52-4DP, 2,2-Bis[3-(3-aminophenoxy)phenyl]-1,1,1,3,3,3-hexafluoropropane-2,2-bis[(3,4-dicarboxyphenoxy)phenyl]propane dianhydride copolymer, polyimide sru, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 292857-53-5DP, 3,3',4,4'-Benzophenonetetracarboxylic dianhydride-2,2-bis[3-(3-aminophenoxy)phenyl]propane copolymer, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 292857-54-6DP

, 3,3',4,4'-Benzophenonetetracarboxylic dianhydride-2,2-bis[3-(3-aminophenoxy)phenyl]propane copolymer, polyimide sru, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 292857-56-8DP, 3,3',4,4'-Benzophenonetetracarboxylic dianhydride-bis[4-(3-aminophenoxy)phenyl]ketone-3,3',4,4'-diphenyl ether tetracarboxylic dianhydride copolymer, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 292857-57-9DP, 2,2-Bis[3-(3-aminophenoxy)phenyl]propane-1,4-bis(3,4-dicarboxyphenoxy)benzene dianhydride-2,2-bis[(3,4-dicarboxyphenoxy)phenyl]propane dianhydride copolymer, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 292857-58-0DP, 3,3',4,4'-Biphenyltetracarboxylic acid anhydride-bis[4-(3-aminophenoxy)phenyl]sulfone-bis(3,4-dicarboxyphenyl)sulfide dianhydride copolymer, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 292857-59-1DP, 4,4'-Bis(3-aminophenoxy)biphenyl-2,2-bis[(3,4-dicarboxyphenoxy)phenyl]propane dianhydride-3,4'-diaminodiphenyl ether copolymer, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 292857-60-4DP, 1,3-Bis(3-aminophenoxy)benzene-bis[4-(3-aminophenoxy)phenyl]ketone-1,4-bis(3,4-dicarboxyphenoxy)benzene dianhydride copolymer, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 292857-62-6DP, 1,3-Bis(3-aminophenoxy)-4-trifluoromethylbenzene-bis[4-(3-aminophenoxy)phenyl]sulfone-bis(3,4-dicarboxyphenyl)sulfide dianhydride copolymer, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 292857-63-7DP, 2,2-Bis[3-(3-aminophenoxy)phenyl]propane-1,3-bis[4-(4-aminophenoxy)- $\alpha,\alpha$ -dimethylbenzyl]benzene-1,4,5,8-naphthalenetetracarboxylic dianhydride copolymer, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 292857-64-8DP, 3,3',4,4'-Biphenyltetracarboxylic acid anhydride-4,4'-bis[4-(4-aminophenoxy)benzoyl]diphenyl ether-2,2-bis[3-(3-aminophenoxy)phenyl]-1,1,1,3,3,3-hexafluoropropane copolymer, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 292857-65-9DP, 3,3',4,4'-Biphenyltetracarboxylic acid anhydride-4,4'-bis(3-aminophenoxy)biphenyl-m-phenylenediamine copolymer, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 292857-66-0DP, 3,3',4,4'-Benzophenonetetracarboxylic dianhydride-bis[4-(3-aminophenoxy)phenyl]ether-3,3'-diaminobiphenyl sulfone copolymer, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 292857-68-2DP, Bis[4-(3-aminophenoxy)phenyl]sulfide-3,3'-diamino-4,4'-diphenoxybenzophenone-3,3',4,4'-diphenyl ether tetracarboxylic dianhydride copolymer, reaction product with dicarboxyphenyl acetylene

anhydride compds. and phthalic acid anhydride 292857-69-3DP, 4,4'-Bis(3-aminophenoxy)biphenyl-3,3'-diamino-4-phenoxybenzophenone-bis(3,4-dicarboxyphenyl)sulfide dianhydride copolymer, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 292857-70-6DP, 4,4'-Bis(3-aminophenoxy)biphenyl-6.6'-bis(3-aminophenoxy)3,3,3',3'-tetramethyl-1,1'-spirobiindan-2,2-bis[(3,4-dicarboxyphenoxy)phenyl]propane dianhydride copolymer, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 292857-71-7DP, 4,4'-Bis(3-aminophenoxy)biphenyl-2,6-bis(3-aminophenoxy)benzonitrile-1,4-bis(3,4-dicarboxyphenoxy)benzene dianhydride copolymer, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 292857-72-8DP, 4,4'-Bis(3-aminophenoxy)biphenyl-2,6-Bis(3-Aminophenoxy)pyridine-1,4,5,8-naphthalenetetracarboxylic dianhydride copolymer, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 292857-74-0DP, 3,3',4,4'-Biphenyltetracarboxylic acid anhydride-3,3',4,4'-benzophenonetetracarboxylic dianhydride-bis[4-(3-aminophenoxy)phenyl]sulfone-3,3'-diaminobiphenyl sulfone copolymer, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 292857-75-1DP, 1,3-Bis(3-aminophenoxy)benzene-2,2-bis[3-(3-aminophenoxy)phenyl]propane-3,3',4,4'-diphenyl ether tetracarboxylic dianhydride-pyromellitic dianhydride copolymer, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 292857-76-2DP, 1,3-Bis[4-(4-aminophenoxy)- $\alpha,\alpha$ -dimethylbenzyl]benzene-2,2-bis[3-(3-aminophenoxy)phenyl]-1,1,1,3,3,3-hexafluoropropane-1,4-bis(3,4-dicarboxyphenoxy)benzene dianhydride-2,2-bis[(3,4-dicarboxyphenoxy)phenyl]propane dianhydride copolymer, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 293315-89-6DP, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 293315-95-4DP, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 293316-68-4DP, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 293321-29-6DP, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 293321-65-0DP, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 293321-68-3DP, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 293322-44-8DP, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 293322-47-1DP, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 293322-51-7DP, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 293322-52-8DP, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 293322-76-6DP, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 293322-86-8DP, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 293322-89-1DP, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 293322-90-4DP, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 293323-01-0DP, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 293323-19-0DP, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 293325-91-4DP, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride

293326-93-9DP, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 293327-70-5DP, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride 293327-72-7DP, reaction product with dicarboxyphenyl acetylene anhydride compds. and phthalic acid anhydride

(thermoplastic polyimide heat-resistant adhesives containing crosslinkable acetylene terminal groups)

L45 ANSWER 11 OF 53 HCAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 2000:632036 HCAPLUS Full-text  
 DOCUMENT NUMBER: 133:239034  
 TITLE: Thermoplastic polyimide heat-resistant adhesives containing crosslinking terminal groups  
 INVENTOR(S): Ohkawa, Yuichi; Sakata, Yoshihiro; Okumura, Tomomi; Shibuya, Atsushi; Kuroki, Takashi; Oikawa, Hideaki  
 PATENT ASSIGNEE(S): Mitsui Chemical Industry Co., Ltd., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 32 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2000248253	A	20000912	JP 1999-101108	19990408

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PRIORITY APPLN. INFO.: JP 1998-374654 A 19981228

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ED Entered STN: 12 Sep 2000

AB The polyimides (A) are prepared by reacting a diamine monomer having three benzene rings and an aromatic tetracarboxylic dianhydride monomer first then adding one or two dicarboxylic acid anhydride mols. with C.tplbond.C groups as terminal blocking agents and finally heat-treating the precursor polyamic acids (B) at higher temperature. Thus, reacting a mixture of 58.47 g 1,3-bis(3-aminophenoxy)benzene and 55.9 g 3,3',4,4'-biphenyltetracarboxylic acid anhydride in 266.87 g N-methyl-2-pyrrolidone at room temperature for 6 h then adding 1.24 g 2-(3,4-dicarboxyphenyl)-1-phenylacetylene anhydride and 0.74 g phthalic acid anhydride and reacting for another 12 h gave a B with logarithmic viscosity of 0.45 dL/g and finally heating B solution at 100°, 200° and 250° for 1 h resp. gave an A with adhesive strength 2.08 kg/cm and good heat resistance.

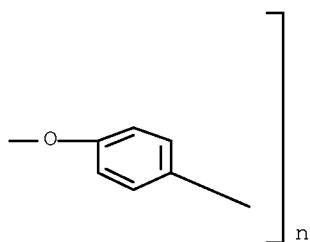
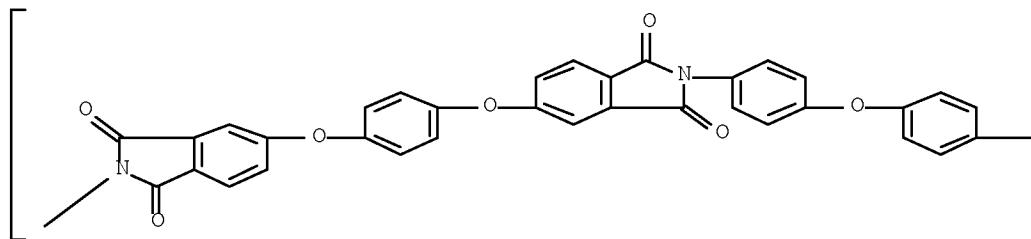
IT 25359-27-7DP, reaction product with 2-(3,4-dicarboxyphenyl)-1-phenylacetylene anhydride and phthalic acid anhydride  
 26615-46-3DP, reaction product with 2-(3,4-dicarboxyphenyl)-1-phenylacetylene anhydride and phthalic acid anhydride  
 34871-01-7DP, reaction product with 2-(3,4-dicarboxyphenyl)-1-phenylacetylene anhydride and phthalic acid anhydride  
 54571-75-4DP, 3,3',4,4'-Benzophenonetetracarboxylic dianhydride-1,3-bis(4-aminophenoxy)benzene copolymer sru, reaction product with 2-(3,4-dicarboxyphenyl)-1-phenylacetylene anhydride and phthalic acid anhydride 54571-76-5DP, 3,3',4,4'-Benzophenonetetracarboxylic dianhydride-1,3-bis(3-aminophenoxy)benzene copolymer sru, reaction product with 2-(3,4-dicarboxyphenyl)-1-phenylacetylene anhydride and phthalic acid anhydride  
 72344-66-2DP, 3,3',4,4'-Biphenyltetracarboxylic acid dianhydride-1,3-bis(3-aminophenoxy)benzene copolymer sru, reaction product with 2-(3,4-dicarboxyphenyl)-1-phenylacetylene anhydride and

phthalic acid anhydride 72344-67-3DP, reaction product with acetylene group-containing dicarboxylic anhydride and phthalic anhydride 72344-77-5DP, reaction product with 2-(3,4-dicarboxyphenyl)-1-phenylacetylene anhydride and phthalic acid anhydride 73354-72-0DP, reaction product with 2-(3,4-dicarboxyphenyl)-1-phenylacetylene anhydride and phthalic acid anhydride 79062-55-8DP, 1,3-Bis(3-aminophenoxy)benzene-2,2-bis(3,4-dicarboxyphenyl)hexafluoropropane dianhydride copolymer sru, reaction product with 2-(3,4-dicarboxyphenyl)-1-phenylacetylene anhydride and phthalic acid anhydride 86068-20-4DP, reaction product with 2-(3,4-dicarboxyphenyl)-1-phenylacetylene anhydride and phthalic acid anhydride 101526-08-3DP, reaction product with 2-(3,4-dicarboxyphenyl)-1-phenylacetylene anhydride and phthalic acid anhydride 105009-93-6DP, reaction product with 1-Phenyl-2-[4-(3,4-Dicarboxyphenoxy)phenyl]Acetylene Anhydride and phthalic acid anhydride 106827-01-4DP, reaction product with acetylene group-containing dicarboxylic anhydride and phthalic anhydride 135876-25-4DP, reaction product with 2-(3,4-dicarboxyphenyl)-1-phenylacetylene anhydride and phthalic acid anhydride 292623-86-0DP, reaction product with 2-(3,4-dicarboxyphenyl)-1-phenylacetylene anhydride and phthalic acid anhydride 292623-88-2DP, reaction product with 2-(3,4-dicarboxyphenyl)-1-phenylacetylene anhydride and phthalic acid anhydride 292623-90-6DP, reaction product with 2-(3,4-dicarboxyphenyl)-1-phenylacetylene anhydride and phthalic acid anhydride 292623-92-8DP, reaction product with 2-(3,4-dicarboxyphenyl)-1-phenylacetylene anhydride and phthalic acid anhydride 292623-96-2DP, reaction product with 2-(3,4-dicarboxyphenyl)-1-phenylacetylene anhydride and phthalic acid anhydride 292623-98-4DP, reaction product with 2-(3,4-dicarboxyphenyl)-1-phenylacetylene anhydride and phthalic acid anhydride 292624-00-1DP, reaction product with 2-(3,4-dicarboxyphenyl)-1-phenylacetylene anhydride and phthalic acid anhydride 292624-02-3DP, reaction product with 2-(3,4-dicarboxyphenyl)-1-phenylacetylene anhydride and phthalic acid anhydride 292624-04-5DP, reaction product with acetylene group-containing dicarboxylic anhydride and phthalic anhydride 292624-06-7DP, reaction product with 2-(3,4-dicarboxyphenyl)-1-phenylacetylene anhydride and phthalic acid anhydride 292624-10-3DP, reaction product with 2-(3,4-dicarboxyphenyl)-1-phenylacetylene anhydride and phthalic acid anhydride 292624-12-5DP, reaction product with 2-(3,4-dicarboxyphenyl)-1-phenylacetylene anhydride and phthalic acid anhydride 292624-15-8DP, reaction product with 1-Phenyl-2-[4-(3,4-Dicarboxybenzoyl)Phenyl]Acetylene Anhydride and phthalic acid anhydride 292624-18-1DP, reaction product with 1-Phenyl-2-[4-(3,4-Dicarboxyphenoxy)Phenyl]Acetylene Anhydride and phthalic acid anhydride 292624-22-7DP, reaction product with 2-(3,4-Dicarboxyphenyl)-1-Phenylacetylene Anhydride and phthalic acid anhydride

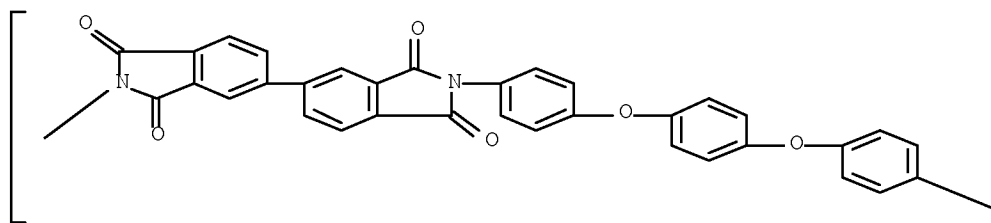
(thermoplastic polyimide heat-resistant adhesives containing crosslinking terminal groups)

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CN Poly[(1,3-dihydro-1,3-dioxo-2H-isoindole-2,5-diyl)oxy-1,4-phenyleneoxy(1,3-dihydro-1,3-dioxo-2H-isoindole-5,2-diyl)-1,4-phenyleneoxy-1,4-phenyleneoxy-1,4-phenylene] (CA INDEX NAME)



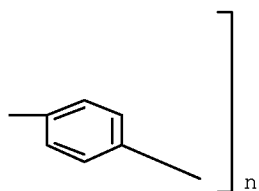
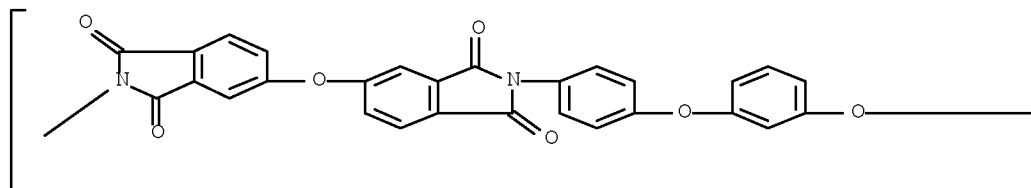
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RN 34871-01-7 HCAPLUS

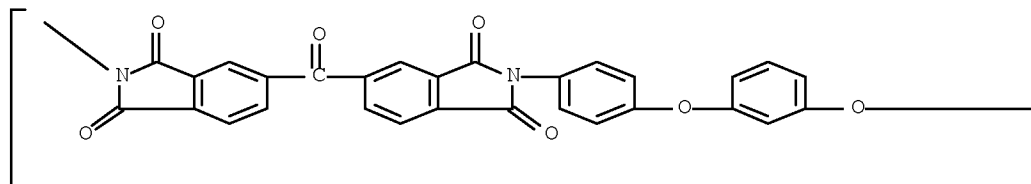
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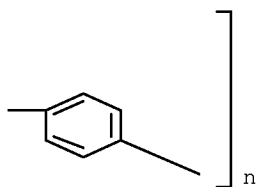
RN 54571-75-4 HCAPLUS

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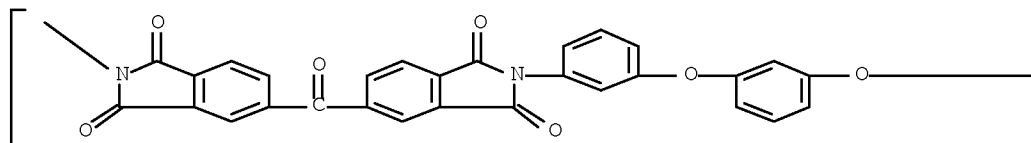


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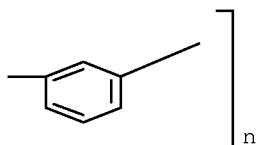


RN 54571-76-5 HCAPLUS  
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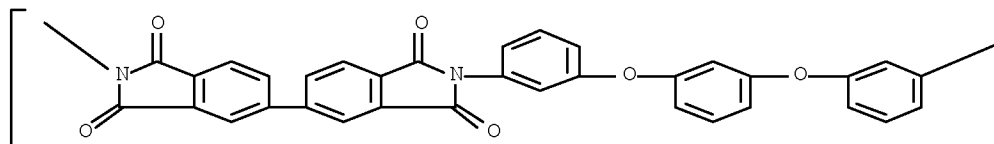


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RN 72344-66-2 HCAPLUS  
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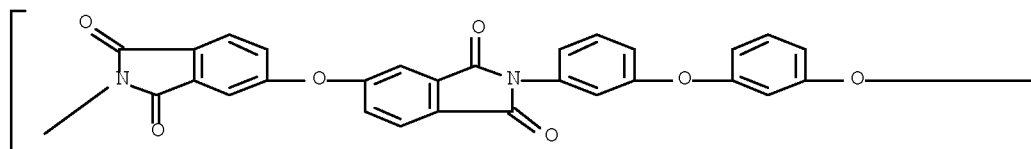


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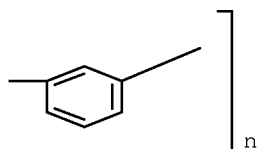


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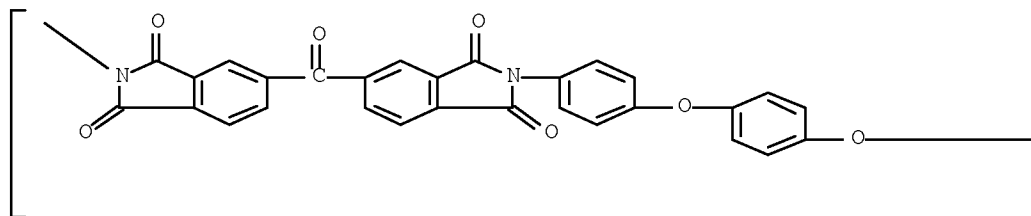
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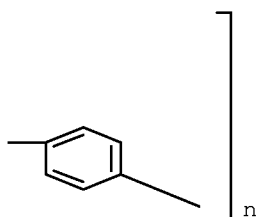
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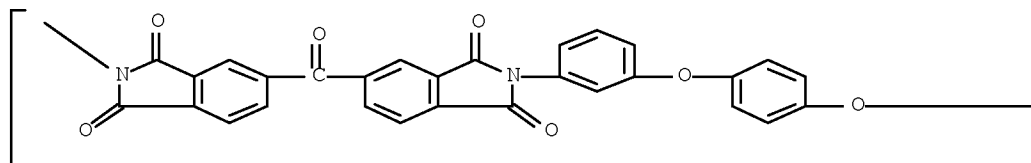
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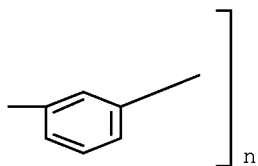
RN 73354-72-0 HCAPLUS

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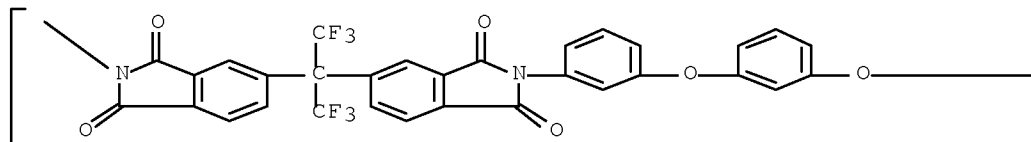
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CN Poly[(1,3-dihydro-1,3-dioxo-2H-isoindole-2,5-diyl)[2,2,2-trifluoro-1-

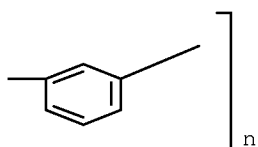
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(trifluoromethyl)ethylidene] (1,3-dihydro-1,3-dioxo-2H-isoindole-5,2-diyl)-1,3-phenyleneoxy-1,3-phenyleneoxy-1,3-phenylene] (CA INDEX NAME)

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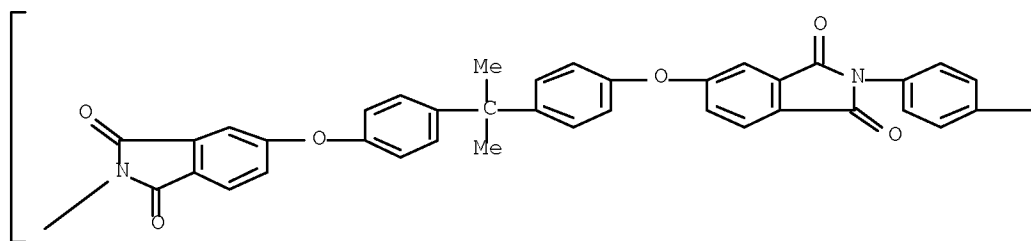
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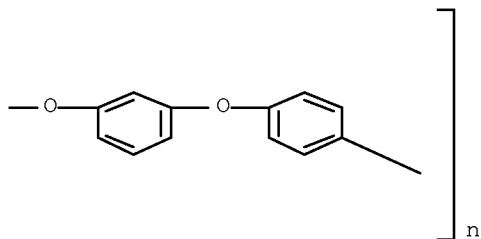


RN 86068-20-4 HCAPLUS

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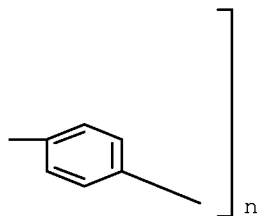
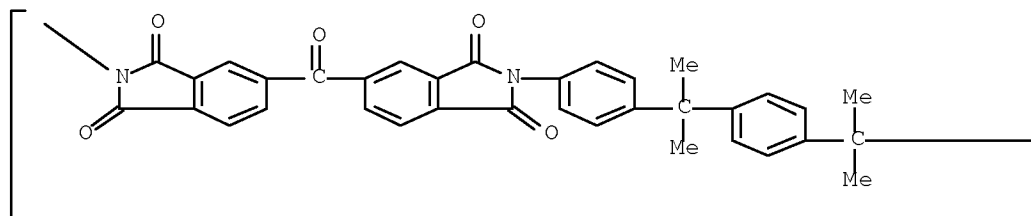
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RN 101526-08-3 HCAPLUS

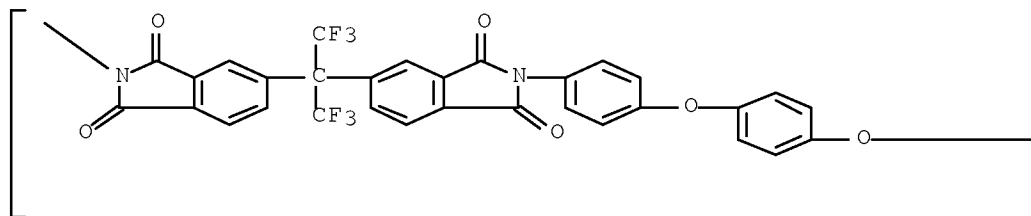
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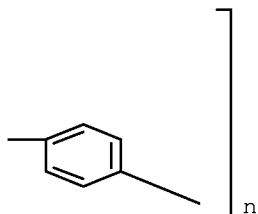
RN 105009-93-6 HCAPLUS

CN Poly[(1,3-dihydro-1,3-dioxo-2H-isoindole-2,5-diyl)[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene](1,3-dihydro-1,3-dioxo-2H-isoindole-5,2-diyl)-1,4-phenyleneoxy-1,4-phenyleneoxy-1,4-phenylene] (CA INDEX NAME)

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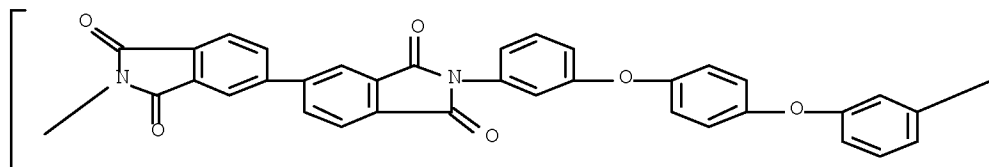


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RN 106827-01-4 HCAPLUS  
 CN Poly[(1,1',3,3'-tetrahydro-1,1',3,3'-tetraoxo[5,5'-bi-2H-isoindole]-  
 2,2'-diyl)-1,3-phenyleneoxy-1,4-phenyleneoxy-1,3-phenylene] (9CI) (CA  
 INDEX NAME)

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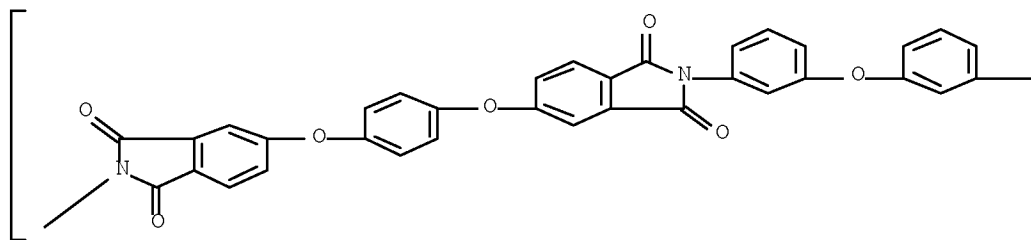


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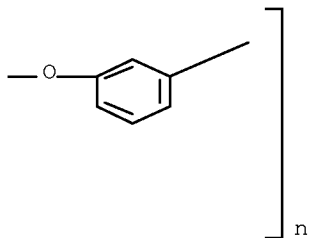
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phenyleneoxy(1,3-dihydro-1,3-dioxo-2H-isoindole-5,2-diyl)-1,3-phenyleneoxy-1,3-phenyleneoxy-1,3-phenylene] (CA INDEX NAME)

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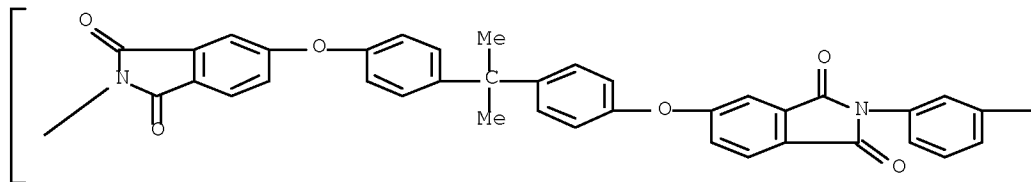
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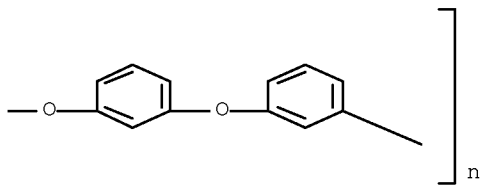


RN 292623-86-0 HCAPLUS

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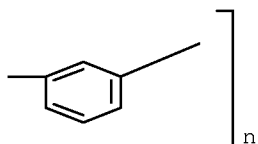
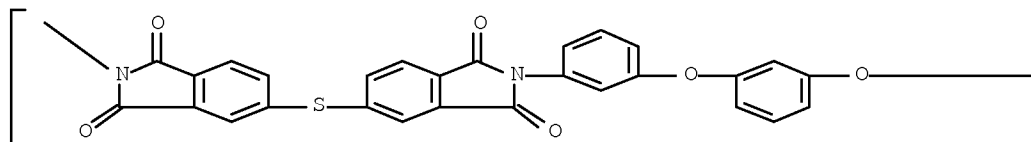
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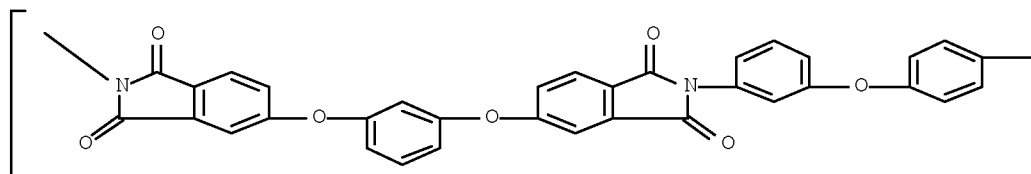
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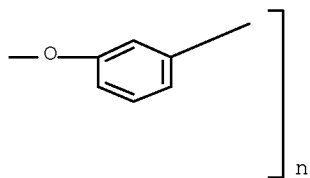
CN Poly[(1,3-dihydro-1,3-dioxo-2H-isoindole-2,5-diyl)thio(1,3-dihydro-1,3-dioxo-2H-isoindole-5,2-diyl)-1,3-phenyleneoxy-1,3-phenyleneoxy-1,3-phenylene] (9CI) (CA INDEX NAME)



RN 292623-90-6 HCAPLUS

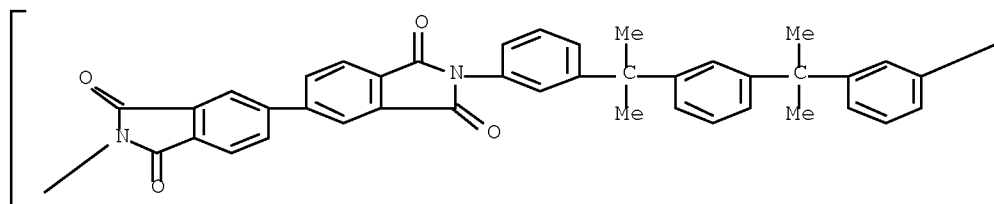
CN Poly[(1,3-dihydro-1,3-dioxo-2H-isoindole-2,5-diyl)oxy-1,3-phenyleneoxy(1,3-dihydro-1,3-dioxo-2H-isoindole-5,2-diyl)-1,3-phenyleneoxy-1,4-phenyleneoxy-1,3-phenylene] (9CI) (CA INDEX NAME)





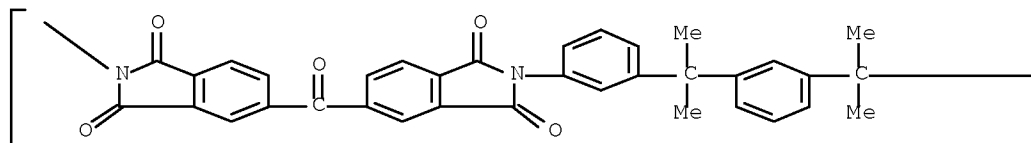
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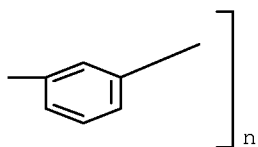
CN Poly[(1,1',3,3'-tetrahydro-1,1',3,3'-tetraoxo[5,5'-bi-2H-isoindole]-2,2'-diyl)-1,3-phenylene(1-methylethylidene)-1,3-phenylene(1-methylethylidene)-1,3-phenylene] (9CI) (CA INDEX NAME)



RN 292623-96-2 HCAPLUS

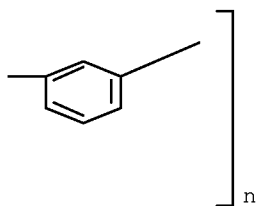
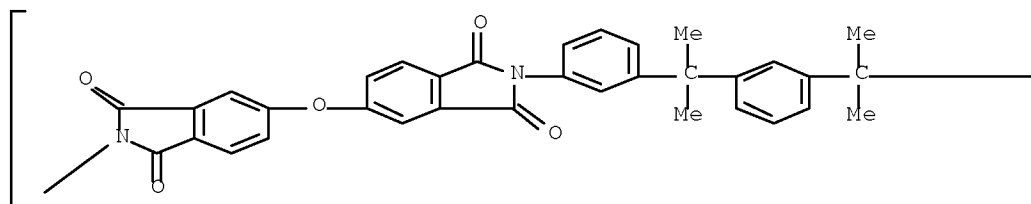
CN Poly[(1,3-dihydro-1,3-dioxo-2H-isoindole-2,5-diyl)carbonyl(1,3-dihydro-1,3-dioxo-2H-isoindole-5,2-diyl)-1,3-phenylene(1-methylethylidene)-1,3-phenylene(1-methylethylidene)-1,3-phenylene] (9CI) (CA INDEX NAME)





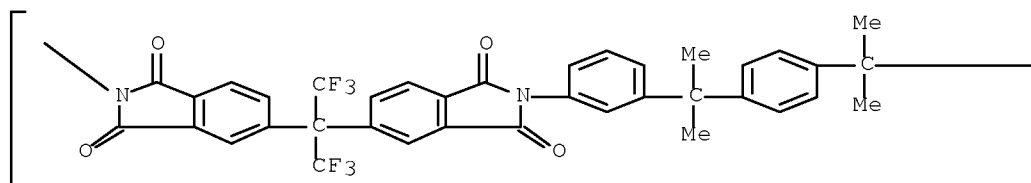
RN 292623-98-4 HCAPLUS

CN Poly[(1,3-dihydro-1,3-dioxo-2H-isoindole-2,5-diyl)oxy(1,3-dihydro-1,3-dioxo-2H-isoindole-5,2-diyl)-1,3-phenylene(1-methylethylidene)-1,3-phenylene(1-methylethylidene)-1,3-phenylene] (9CI) (CA INDEX NAME)



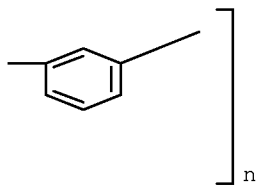
RN 292624-00-1 HCAPLUS

CN Poly[(1,3-dihydro-1,3-dioxo-2H-isoindole-2,5-diyl)[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene](1,3-dihydro-1,3-dioxo-2H-isoindole-5,2-diyl)-1,3-phenylene(1-methylethylidene)-1,4-phenylene(1-methylethylidene)-1,3-phenylene] (9CI) (CA INDEX NAME)





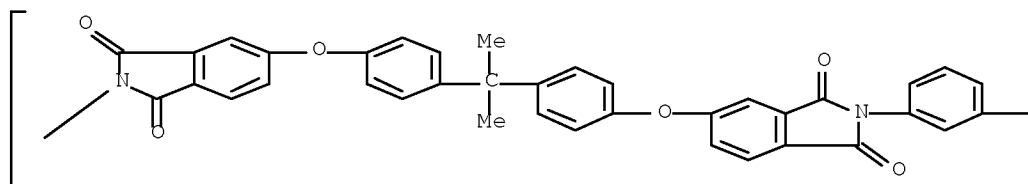
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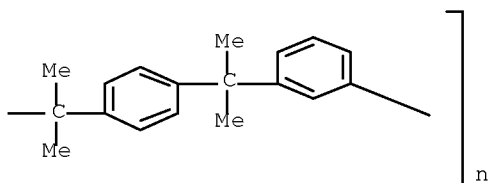
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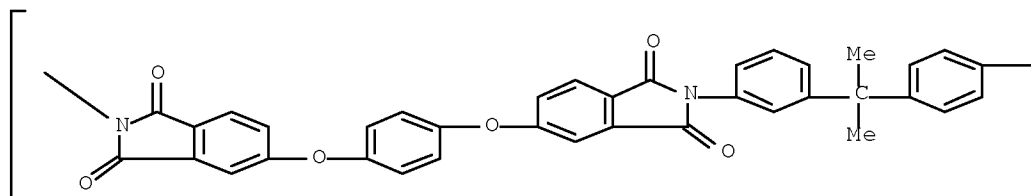
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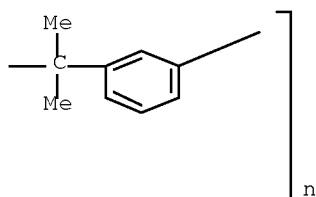
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CN Poly[(1,3-dihydro-1,3-dioxo-2H-isoindole-2,5-diyl)oxy-1,4-phenyleneoxy(1,3-dihydro-1,3-dioxo-2H-isoindole-5,2-diyl)-1,3-phenylene(1-methylethylidene)-1,4-phenylene(1-methylethylidene)-1,3-phenylene] (9CI) (CA INDEX NAME)

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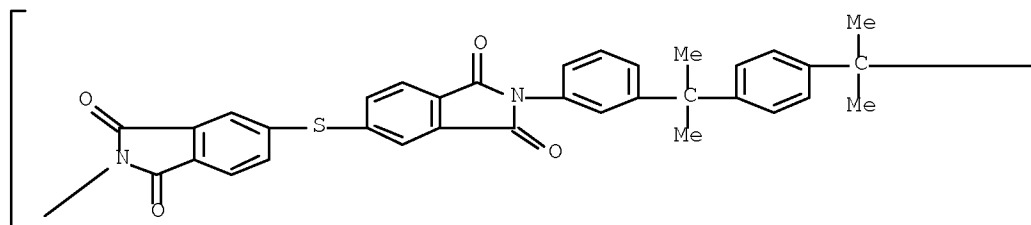
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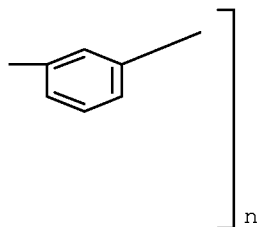
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CN Poly[(1,3-dihydro-1,3-dioxo-2H-isoindole-2,5-diyl)thio(1,3-dihydro-1,3-dioxo-2H-isoindole-5,2-diyl)-1,3-phenylene(1-methylethylidene)-1,4-phenylene(1-methylethylidene)-1,3-phenylene] (9CI) (CA INDEX NAME)

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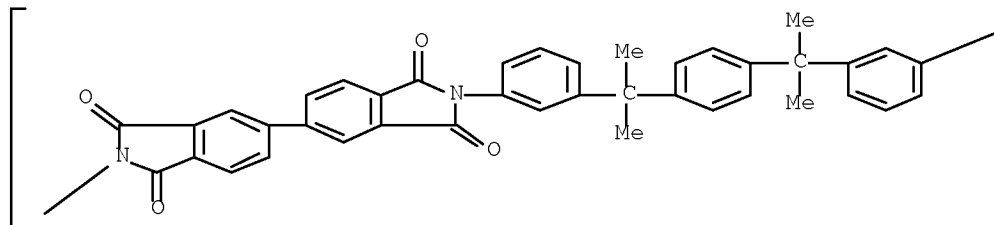


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RN 292624-10-3 HCAPLUS

CN Poly[(1,1',3,3'-tetrahydro-1,1',3,3'-tetraoxo[5,5'-bi-2H-isoindole]-2,2'-diyl)-1,3-phenylene(1-methylethylidene)-1,4-phenylene(1-methylethylidene)-1,3-phenylene] (9CI) (CA INDEX NAME)

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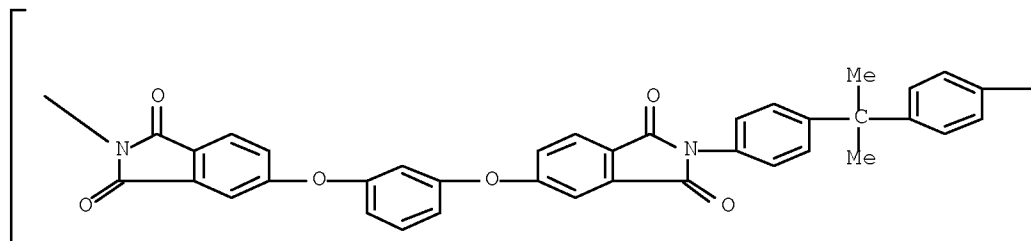
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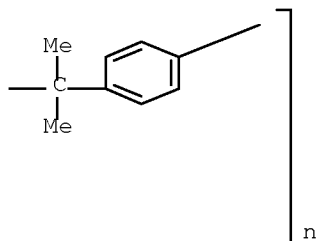


RN 292624-12-5 HCAPLUS

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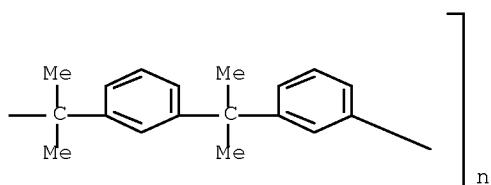
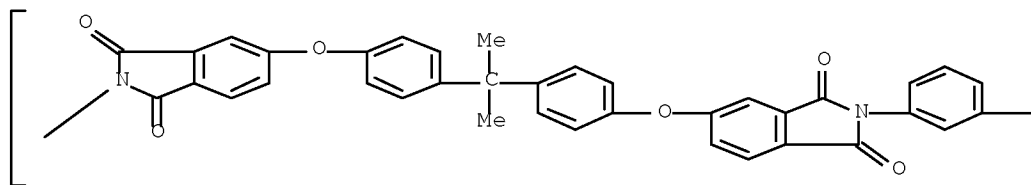
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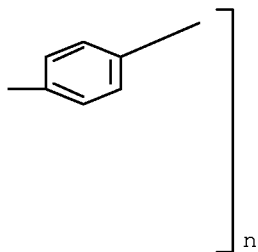
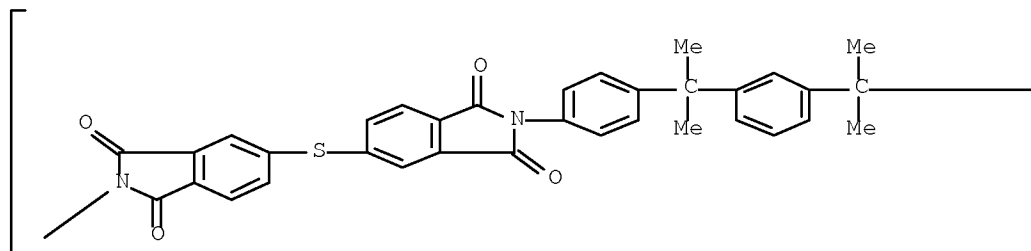
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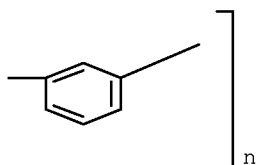
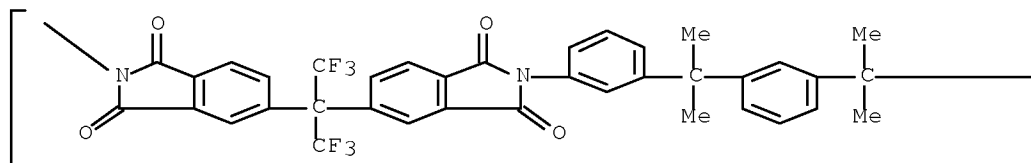


RN 292624-18-1 HCAPLUS

CN Poly[(1,3-dihydro-1,3-dioxo-2H-isoindole-2,5-diyl)thio(1,3-dihydro-1,3-dioxo-2H-isoindole-5,2-diyl)-1,4-phenylene(1-methylethylidene)-1,3-phenylene(1-methylethylidene)-1,4-phenylene] (9CI) (CA INDEX NAME)



RN 292624-22-7 HCAPLUS  
 CN Poly[(1,3-dihydro-1,3-dioxo-2H-isoindole-2,5-diyl)[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene](1,3-dihydro-1,3-dioxo-2H-isoindole-5,2-diyl)-1,3-phenylene(1-methylethylidene)-1,3-phenylene(1-methylethylidene)-1,3-phenylene] (9CI) (CA INDEX NAME)



- IC ICM C09J179-08  
ICS C08G073-10
- CC 38-3 (Plastics Fabrication and Uses)  
Section cross-reference(s): 35
- ST thermoplastic polyimide heat resistant adhesive; polyamic  
acid crosslinking terminal group polyimide; acetylene terminal group  
polyamic acid polyimide adhesive
- IT Adhesives  
(heat-resistant; thermoplastic polyimide heat-  
resistant adhesives containing crosslinking terminal groups)
- IT Polyamic acids  
(precursor of polyimides; thermoplastic polyimide heat-  
resistant adhesives containing crosslinking terminal groups)
- IT Polyimides, uses  
(thermoplastic polyimide heat-resistant adhesives containing  
crosslinking terminal groups)
- IT Adhesives  
(thermoplastic; thermoplastic polyimide heat-resistant  
adhesives containing crosslinking terminal groups)
- IT 85-44-9, 1,3-Isobenzofurandione 119389-05-8, 2-(3,4-Dicarboxyphenyl)-  
1-phenylacetylene anhydride 159507-09-2 186612-18-0 258288-68-5  
(terminal blocking agent; thermoplastic polyimide heat-  
resistant adhesives containing crosslinking terminal groups)
- IT 9043-08-7DP, 1,3-Bis(4-aminophenoxy)benzene-Pyromellitic Dianhydride  
copolymer sru, reaction product with 2-(3,4-dicarboxyphenyl)-1-  
phenylacetylene anhydride and phthalic acid anhydride 9043-13-4DP,  
reaction product with 2-(3,4-dicarboxyphenyl)-1-phenylacetylene  
anhydride and phthalic acid anhydride 25359-27-7DP, reaction  
product with 2-(3,4-dicarboxyphenyl)-1-phenylacetylene anhydride and  
phthalic acid anhydride 25464-28-2DP, reaction product with  
2-(3,4-dicarboxyphenyl)-1-phenylacetylene anhydride and phthalic acid  
anhydride 26298-82-8DP, reaction product with 2-(3,4-  
dicarboxyphenyl)-1-phenylacetylene anhydride and phthalic acid  
anhydride 26615-46-3DP, reaction product with  
2-(3,4-dicarboxyphenyl)-1-phenylacetylene anhydride and phthalic acid  
anhydride 34870-97-8DP, 1,3-Bis(4-aminophenoxy)benzene-Pyromellitic  
Dianhydride copolymer sru, reaction product with 2-(3,4-  
dicarboxyphenyl)-1-phenylacetylene anhydride and phthalic acid  
anhydride 34871-01-7DP, reaction product with  
2-(3,4-dicarboxyphenyl)-1-phenylacetylene anhydride and phthalic acid  
anhydride 43198-23-8DP, 1,3-Bis(4-aminophenoxy)benzene-Pyromellitic  
Dianhydride copolymer, reaction product with 2-(3,4-dicarboxyphenyl)-1-  
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3,3',4,4'-Benzophenonetetracarboxylic dianhydride-1,3-bis(3-  
aminophenoxy)benzene copolymer, reaction product with  
2-(3,4-dicarboxyphenyl)-1-phenylacetylene anhydride and phthalic acid  
anhydride 54570-88-6DP, 1,3-Bis(3-aminophenoxy)benzene-pyromellitic  
dianhydride copolymer, reaction product with 2-(3,4-dicarboxyphenyl)-1-  
phenylacetylene anhydride and phthalic acid anhydride 54570-89-7DP,  
reaction product with 2-(3,4-dicarboxyphenyl)-1-phenylacetylene  
anhydride and phthalic acid anhydride 54570-90-0DP,  
3,3',4,4'-Benzophenonetetracarboxylic dianhydride-1,3-bis(4-  
aminophenoxy)benzene copolymer, reaction product with  
2-(3,4-dicarboxyphenyl)-1-phenylacetylene anhydride and phthalic acid  
anhydride 54571-73-2DP, 1,3-Bis(3-aminophenoxy)benzene-pyromellitic  
dianhydride copolymer polyimide sru, reaction product with  
2-(3,4-dicarboxyphenyl)-1-phenylacetylene anhydride and phthalic acid

anhydride 54571-74-3DP, reaction product with 2-(3,4-dicarboxyphenyl)-1-phenylacetylene anhydride and phthalic acid anhydride 54571-75-4DP, 3,3',4,4'-Benzophenonetetracarboxylic dianhydride-1,3-bis(4-aminophenoxy)benzene copolymer sru, reaction product with 2-(3,4-dicarboxyphenyl)-1-phenylacetylene anhydride and phthalic acid anhydride 54571-76-5DP, 3,3',4,4'-Benzophenonetetracarboxylic dianhydride-1,3-bis(3-aminophenoxy)benzene copolymer sru, reaction product with 2-(3,4-dicarboxyphenyl)-1-phenylacetylene anhydride and phthalic acid anhydride 54908-94-0DP, reaction product with 2-(3,4-Dicarboxyphenyl)-1-Phenylacetylene Anhydride and phthalic acid anhydride 59113-58-5DP, reaction product with 2-(3,4-dicarboxyphenyl)-1-phenylacetylene anhydride and phthalic acid anhydride 59326-57-7DP, reaction product with 2-(3,4-dicarboxyphenyl)-1-phenylacetylene anhydride and phthalic acid anhydride 72344-66-2DP, 3,3',4,4'-Biphenyltetracarboxylic acid dianhydride-1,3-bis(3-aminophenoxy)benzene copolymer sru, reaction product with 2-(3,4-dicarboxyphenyl)-1-phenylacetylene anhydride and phthalic acid anhydride 72344-67-3DP, reaction product with acetylene group-containing dicarboxylic anhydride and phthalic acid anhydride 72344-77-5DP, reaction product with 2-(3,4-dicarboxyphenyl)-1-phenylacetylene anhydride and phthalic acid anhydride 72356-03-7DP, 3,3',4,4'-Biphenyltetracarboxylic acid dianhydride-1,3-bis(3-aminophenoxy)benzene copolymer, reaction product with 2-(3,4-dicarboxyphenyl)-1-phenylacetylene anhydride and phthalic acid anhydride 72356-21-9DP, reaction product with 2-(3,4-dicarboxyphenyl)-1-phenylacetylene anhydride and phthalic acid anhydride 72950-08-4DP, 3,3',4,4'-Biphenyloxytetracarboxylic dianhydride-1,3-bis(4-aminophenoxy)benzene copolymer, reaction product with 2-(3,4-dicarboxyphenyl)-1-phenylacetylene anhydride and phthalic acid anhydride 72950-08-4DP, 1,3-Bis(3-aminophenoxy)benzene-3,3',4,4'-diphenyl ether tetracarboxylic dianhydride copolymer, reaction product with acetylene group-containing dicarboxylic anhydride and phthalic anhydride 73354-72-0DP, reaction product with 2-(3,4-dicarboxyphenyl)-1-phenylacetylene anhydride and phthalic acid anhydride 77833-86-4DP, 1,4-Bis(3-aminophenoxy)benzene-Pyromellitic Dianhydride copolymer, reaction product with 2-(3,4-Dicarboxyphenyl)-1-Phenylacetylene Anhydride and phthalic acid anhydride 79062-55-8DP, 1,3-Bis(3-aminophenoxy)benzene-2,2-bis(3,4-dicarboxyphenyl)hexafluoropropane dianhydride copolymer sru, reaction product with 2-(3,4-dicarboxyphenyl)-1-phenylacetylene anhydride and phthalic acid anhydride 79062-58-1DP, 1,3-Bis(3-aminophenoxy)benzene-2,2-bis(3,4-dicarboxyphenyl)hexafluoropropane dianhydride copolymer, reaction product with 2-(3,4-dicarboxyphenyl)-1-phenylacetylene anhydride and phthalic acid anhydride 86068-20-4DP, reaction product with 2-(3,4-dicarboxyphenyl)-1-phenylacetylene anhydride and phthalic acid anhydride 86068-27-1DP, reaction product with 2-(3,4-dicarboxyphenyl)-1-phenylacetylene anhydride and phthalic acid anhydride 94171-18-3DP, reaction product with 2-(3,4-Dicarboxyphenyl)-1-Phenylacetylene Anhydride and phthalic acid anhydride 94186-89-7DP, 1,3-Bis(3-aminophenoxy)benzene-pyromellitic dianhydride copolymer, polyamic acid sru, reaction product with 2-(3,4-dicarboxyphenyl)-1-phenylacetylene anhydride and phthalic acid anhydride 94186-90-0DP, reaction product with 2-(3,4-Dicarboxyphenyl)-1-Phenylacetylene Anhydride and phthalic acid anhydride 101359-52-8DP, reaction product with acetylene group-containing dicarboxylic anhydride and phthalic anhydride 101359-53-9DP, reaction product with 2-(3,4-dicarboxyphenyl)-1-phenylacetylene anhydride and phthalic acid anhydride 101505-27-5DP, reaction product with 2-(3,4-dicarboxyphenyl)-1-phenylacetylene

anhydride and phthalic acid anhydride 101526-08-3DP, reaction product with 2-(3,4-dicarboxyphenyl)-1-phenylacetylene anhydride and phthalic acid anhydride 104708-55-6DP, reaction product with 1-Phenyl-2-[4-(3,4-Dicarboxyphenoxy)phenyl]Acetylene Anhydride and phthalic acid anhydride 105009-93-6DP, reaction product with 1-Phenyl-2-[4-(3,4-Dicarboxyphenoxy)phenyl]Acetylene Anhydride and phthalic acid anhydride 105038-78-6DP, 1,4-Bis(4-aminophenoxy)benzene-2,2-Bis(3,4-Dicarboxyphenyl)Hexafluoropropane Dianhydride copolymer, reaction product with 1-Phenyl-2-[4-(3,4-Dicarboxyphenoxy)phenyl]Acetylene Anhydride and phthalic acid anhydride 106826-81-7DP, reaction product with acetylene group-containing dicarboxylic anhydride and phthalic anhydride 106827-01-4DP, reaction product with acetylene group-containing dicarboxylic anhydride and phthalic anhydride 106907-30-6DP, reaction product with 2-(3,4-dicarboxyphenyl)-1-phenylacetylene anhydride and phthalic acid anhydride 106907-31-7DP, reaction product with acetylene group-containing dicarboxylic anhydride and phthalic anhydride 110712-63-5DP, reaction product with 2-(3,4-Dicarboxyphenyl)-1-Phenylacetylene Anhydride and phthalic acid anhydride 113742-50-0DP, reaction product with 2-(3,4-dicarboxyphenyl)-1-phenylacetylene anhydride and phthalic acid anhydride 135876-25-4DP, reaction product with 2-(3,4-dicarboxyphenyl)-1-phenylacetylene anhydride and phthalic acid anhydride 135876-42-5DP, reaction product with 2-(3,4-dicarboxyphenyl)-1-phenylacetylene anhydride and phthalic acid anhydride 148046-45-1DP, reaction product with 2-(3,4-dicarboxyphenyl)-1-phenylacetylene anhydride and phthalic acid anhydride 148708-45-6DP, reaction product with 2-(3,4-dicarboxyphenyl)-1-phenylacetylene anhydride and phthalic acid anhydride 153966-35-9DP, reaction product with 2-(3,4-dicarboxyphenyl)-1-phenylacetylene anhydride and phthalic acid anhydride 167857-86-5DP, reaction product with 2-(3,4-Dicarboxyphenyl)-1-Phenylacetylene Anhydride and phthalic acid anhydride 223240-99-1DP, reaction product with 2-(3,4-dicarboxyphenyl)-1-phenylacetylene anhydride and phthalic acid anhydride 225110-58-7DP, reaction product with 2-(3,4-dicarboxyphenyl)-1-phenylacetylene anhydride and phthalic acid anhydride 292623-85-9DP, 1,3-Bis(3-aminophenoxy)benzene-2,2-bis[(3,4-dicarboxyphenoxy)phenyl]propane dianhydride copolymer, reaction product with 2-(3,4-dicarboxyphenyl)-1-phenylacetylene anhydride and phthalic acid anhydride 292623-86-0DP, reaction product with 2-(3,4-dicarboxyphenyl)-1-phenylacetylene anhydride and phthalic acid anhydride 292623-87-1DP, reaction product with 2-(3,4-dicarboxyphenyl)-1-phenylacetylene anhydride and phthalic acid anhydride 292623-88-2DP, reaction product with 2-(3,4-dicarboxyphenyl)-1-phenylacetylene anhydride and phthalic acid anhydride 292623-89-3DP, reaction product with 2-(3,4-dicarboxyphenyl)-1-phenylacetylene anhydride and phthalic acid anhydride 292623-90-6DP, reaction product with 2-(3,4-dicarboxyphenyl)-1-phenylacetylene anhydride and phthalic acid anhydride 292623-91-7DP, reaction product with 2-(3,4-dicarboxyphenyl)-1-phenylacetylene anhydride and phthalic acid anhydride 292623-92-8DP, reaction product with 2-(3,4-dicarboxyphenyl)-1-phenylacetylene anhydride and phthalic acid anhydride 292623-93-9DP, reaction product with 2-(3,4-dicarboxyphenyl)-1-phenylacetylene anhydride and phthalic acid anhydride 292623-94-0DP, reaction product with 2-(3,4-dicarboxyphenyl)-1-phenylacetylene anhydride and phthalic acid anhydride 292623-95-1DP, reaction product with 2-(3,4-dicarboxyphenyl)-1-phenylacetylene anhydride and phthalic acid



anhydride 292623-96-2DP, reaction product with  
 2-(3,4-dicarboxyphenyl)-1-phenylacetylene anhydride and phthalic acid  
 anhydride 292623-97-3DP, reaction product with 2-(3,4-  
 dicarboxyphenyl)-1-phenylacetylene anhydride and phthalic acid  
 anhydride 292623-98-4DP, reaction product with  
 2-(3,4-dicarboxyphenyl)-1-phenylacetylene anhydride and phthalic acid  
 anhydride 292623-99-5DP, reaction product with 2-(3,4-  
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 anhydride 292624-01-2DP, reaction product with 2-(3,4-  
 dicarboxyphenyl)-1-phenylacetylene anhydride and phthalic acid  
 anhydride 292624-02-3DP, reaction product with  
 2-(3,4-dicarboxyphenyl)-1-phenylacetylene anhydride and phthalic acid  
 anhydride 292624-03-4DP, reaction product with acetylene  
 group-containing dicarboxylic anhydride and phthalic anhydride  
 292624-04-5DP, reaction product with acetylene group-containing  
 dicarboxylic anhydride and phthalic anhydride 292624-05-6DP,  
 reaction product with 2-(3,4-dicarboxyphenyl)-1-phenylacetylene  
 anhydride and phthalic acid anhydride 292624-06-7DP,  
 reaction product with 2-(3,4-dicarboxyphenyl)-1-phenylacetylene  
 anhydride and phthalic acid anhydride 292624-07-8DP, reaction  
 product with 2-(3,4-dicarboxyphenyl)-1-phenylacetylene anhydride and  
 phthalic acid anhydride 292624-08-9DP, reaction product with  
 2-(3,4-dicarboxyphenyl)-1-phenylacetylene anhydride and phthalic acid  
 anhydride 292624-09-0DP, reaction product with 2-(3,4-  
 dicarboxyphenyl)-1-phenylacetylene anhydride and phthalic acid  
 anhydride 292624-10-3DP, reaction product with  
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 anhydride 292624-11-4DP, reaction product with 2-(3,4-  
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 anhydride 292624-12-5DP, reaction product with  
 2-(3,4-dicarboxyphenyl)-1-phenylacetylene anhydride and phthalic acid  
 anhydride 292624-14-7DP, reaction product with 1-Phenyl-2-[4-(3,4-  
 Dicarboxybenzoyl)Phenyl]Acetylene Anhydride and phthalic acid  
 anhydride 292624-15-8DP, reaction product with  
 1-Phenyl-2-[4-(3,4-Dicarboxybenzoyl)Phenyl]Acetylene Anhydride and  
 phthalic acid anhydride 292624-17-0DP, reaction product with  
 1-Phenyl-2-[4-(3,4-Dicarboxyphenoxy)Phenyl]Acetylene Anhydride and  
 phthalic acid anhydride 292624-18-1DP, reaction product with  
 1-Phenyl-2-[4-(3,4-Dicarboxyphenoxy)Phenyl]Acetylene Anhydride and  
 phthalic acid anhydride 292624-21-6DP, reaction product with  
 2-(3,4-Dicarboxyphenyl)-1-Phenylacetylene Anhydride and phthalic acid  
 anhydride 292624-22-7DP, reaction product with  
 2-(3,4-Dicarboxyphenyl)-1-Phenylacetylene Anhydride and phthalic acid  
 anhydride 292624-23-8DP, reaction product with 2-(3,4-  
 Dicarboxyphenyl)-1-Phenylacetylene Anhydride and phthalic acid  
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 anhydride 292624-25-0DP, reaction product with 2-(3,4-  
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 anhydride 292624-26-1DP, reaction product with 2-(3,4-  
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 anhydride 292624-27-2DP, reaction product with 2-(3,4-  
 Dicarboxyphenyl)-1-Phenylacetylene Anhydride and phthalic acid  
 anhydride 292624-28-3DP, reaction product with 2-(3,4-  
 Dicarboxyphenyl)-1-Phenylacetylene Anhydride and phthalic acid  
 anhydride 292624-29-4DP, reaction product with 2-(3,4-  
 Dicarboxyphenyl)-1-Phenylacetylene Anhydride and phthalic acid  
 anhydride 292624-30-7DP, reaction product with 2-(3,4-

Dicarboxyphenyl)-1-Phenylacetylene Anhydride and phthalic acid anhydride 292624-31-8DP, reaction product with 2-(3,4-Dicarboxyphenyl)-1-Phenylacetylene Anhydride and phthalic acid anhydride 292624-32-9DP, reaction product with 2-(3,4-Dicarboxyphenyl)-1-Phenylacetylene Anhydride and phthalic acid anhydride 292624-33-0DP, reaction product with 2-(3,4-Dicarboxyphenyl)-1-Phenylacetylene Anhydride and phthalic acid anhydride 292624-34-1DP, reaction product with 2-(3,4-Dicarboxyphenyl)-1-Phenylacetylene Anhydride and phthalic acid anhydride 292624-35-2DP, reaction product with 2-(3,4-Dicarboxyphenyl)-1-Phenylacetylene Anhydride and phthalic acid anhydride 292624-36-3DP, reaction product with 2-(3,4-Dicarboxyphenyl)-1-Phenylacetylene Anhydride and phthalic acid anhydride 292624-37-4DP, reaction product with 2-(3,4-Dicarboxyphenyl)-1-Phenylacetylene Anhydride and phthalic acid anhydride 292624-38-5DP, reaction product with 2-(3,4-Dicarboxyphenyl)-1-Phenylacetylene Anhydride and phthalic acid anhydride 292624-39-6DP, reaction product with 2-(3,4-Dicarboxyphenyl)-1-Phenylacetylene Anhydride and phthalic acid anhydride 293306-06-6DP, reaction product with 2-(3,4-dicarboxyphenyl)-1-phenylacetylene anhydride and phthalic acid anhydride 293306-11-3DP, reaction product with 2-(3,4-dicarboxyphenyl)-1-phenylacetylene anhydride and phthalic acid anhydride 293306-17-9DP, reaction product with 2-(3,4-dicarboxyphenyl)-1-phenylacetylene anhydride and phthalic acid anhydride 293306-40-8DP, reaction product with 2-(3,4-dicarboxyphenyl)-1-phenylacetylene anhydride and phthalic acid anhydride 293306-41-9DP, reaction product with 2-(3,4-dicarboxyphenyl)-1-phenylacetylene anhydride and phthalic acid anhydride 293306-44-2DP, reaction product with 2-(3,4-dicarboxyphenyl)-1-phenylacetylene anhydride and phthalic acid anhydride 293307-05-8DP, reaction product with 2-(3,4-dicarboxyphenyl)-1-phenylacetylene anhydride and phthalic acid anhydride 293307-08-1DP, reaction product with 2-(3,4-dicarboxyphenyl)-1-phenylacetylene anhydride and phthalic acid anhydride 293308-20-0DP, reaction product with 2-(3,4-dicarboxyphenyl)-1-phenylacetylene anhydride and phthalic acid anhydride 293308-29-9DP, reaction product with 2-(3,4-dicarboxyphenyl)-1-phenylacetylene anhydride and phthalic acid anhydride 293308-31-3DP, reaction product with 2-(3,4-dicarboxyphenyl)-1-phenylacetylene anhydride and phthalic acid anhydride 293310-17-5DP, reaction product with 2-(3,4-dicarboxyphenyl)-1-phenylacetylene anhydride and phthalic acid anhydride 293310-41-5DP, reaction product with acetylene group-containing dicarboxylic anhydride and phthalic anhydride 293310-47-1DP, reaction product with 2-(3,4-dicarboxyphenyl)-1-phenylacetylene anhydride and phthalic acid anhydride 293310-51-7DP, reaction product with 2-(3,4-dicarboxyphenyl)-1-phenylacetylene anhydride and phthalic acid anhydride 293310-55-1DP, reaction product with 2-(3,4-dicarboxyphenyl)-1-phenylacetylene anhydride and phthalic acid anhydride 293314-86-0DP, reaction product with 2-(3,4-dicarboxyphenyl)-1-phenylacetylene anhydride and phthalic acid anhydride 293314-87-1DP, reaction product with 1-Phenyl-2-[4-(3,4-Dicarboxybenzoyl)Phenyl]Acetylene Anhydride and phthalic acid anhydride 293314-94-0DP, reaction product with 1-Phenyl-2-[4-(3,4-Dicarboxyphenoxy)Phenyl]Acetylene Anhydride and phthalic acid anhydride 293315-17-0DP, reaction product with 2-(3,4-Dicarboxyphenyl)-1-Phenylacetylene Anhydride and phthalic acid anhydride

(thermoplastic polyimide heat-resistant adhesives containing

crosslinking terminal groups)

L45 ANSWER 12 OF 53 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2000:579517 HCAPLUS Full-text

DOCUMENT NUMBER: 133:327502

TITLE: Photosensitive polyimide using fullerene as photosensitizer

AUTHOR(S): Takeuchi, Etsu; Tajima, Yusuke; Shigemitsu, Yasuo; Takeuchi, Kazuo; Hosomi, Takeshi

CORPORATE SOURCE: Graduate School of Science and Engineering, Saitama University, Urawa, 338-8570, Japan

SOURCE: Journal of Photopolymer Science and Technology (2000), 13(2), 351-356

CODEN: JSTEED; ISSN: 0914-9244

PUBLISHER: Technical Association of Photopolymers, Japan

DOCUMENT TYPE: Journal

LANGUAGE: English

ED Entered STN: 23 Aug 2000

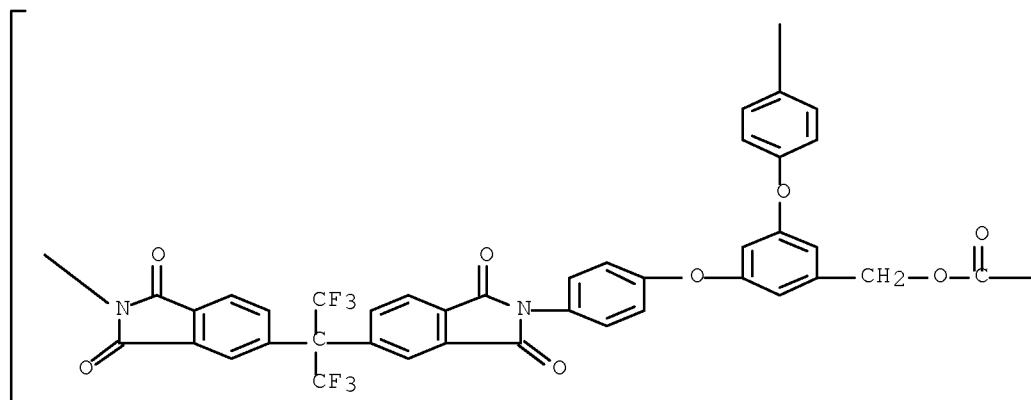
AB Photosensitive polyimide with high thermal stability was prepared from the new diamine monomer containing a furan moiety. UV irradiation and development of the polyimide in the presence of fullerene sensitizer produced good quality patterns. Post-exposure baking improved its photosensitivity. A thick polyimide film (10  $\mu\text{m}$ ) pattern was also be obtained. Thermal stability of the polyimide, characterized by TGA, was excellent even without any high temperature annealing.

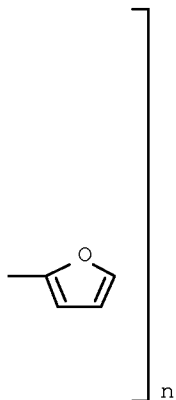
IT 302591-47-5D, oxidized  
(lithog. imaging using photosensitive polyimide and fullerene sensitizer)

RN 302591-47-5 HCAPLUS

CN Poly[(1,3-dihydro-1,3-dioxo-2H-isoindole-2,5-diyl)[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene](1,3-dihydro-1,3-dioxo-2H-isoindole-5,2-diyl)-1,4-phenyleneoxy[5-[[2-(furan-2-ylcarbonyl)oxy]methyl]-1,3-phenylene]oxy-1,4-phenylene] (9CI) (CA INDEX NAME)

PAGE 1-A





- CC 74-1 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
- ST polyimide lithog fullerene photosensitizer photooxidn  
singlet oxygen photocrosslinking; thermal stability polyimide  
photoresist photocrosslinking fullerene photosensitizer lithog
- IT Photoresists  
(lithog. imaging using photosensitive polyimide and  
fullerene sensitizer for singlet oxygen induced photooxidn. and  
crosslinking)
- IT Oxidation, photochemical  
(lithog. imaging using photosensitive polyimide with  
furan pendant group and fullerene sensitizer for singlet oxygen  
induced photooxidn. and crosslinking)
- IT Crosslinking  
(photochem.; lithog. imaging using photosensitive  
polyimide and fullerene sensitizer for singlet oxygen induced  
photooxidn. and crosslinking)
- IT Polyethers, reactions  
Polyethers, reactions  
Polyethers, reactions  
(polyamic acid-, fluorine-containing; preparation of thermally stable  
polyimide for lithog. photoimaging with fullerene  
photosensitizer)
- IT Fluoropolymers, reactions  
(polyamic acid-polyether-; preparation of thermally stable polyimide for  
lithog. photoimaging with fullerene photosensitizer)
- IT Polyamic acids  
Polyamic acids  
Polyamic acids  
(polyether-, fluorine-containing; preparation of thermally stable polyimide  
for lithog. photoimaging with fullerene photosensitizer)
- IT Polyimides, processes  
Polyimides, processes  
Polyimides, processes  
(polyether-, fluorine-containing; thermally stable photosensitive  
polyimide and its lithog. imaging based on fullerene  
sensitized photooxidn. and crosslinking)
- IT Fluoropolymers, processes  
(polyether-polyimide-; thermally stable photosensitive polyimide  
and its lithog. imaging based on fullerene sensitized  
photooxidn. and crosslinking)

- IT Polyethers, processes  
Polyethers, processes  
Polyethers, processes  
(polyimide-, fluorine-containing; thermally stable photosensitive polyimide and its lithog. imaging based on fullerene sensitized photooxidn. and crosslinking)
- IT Thermal stability  
(thermally stable polyimide for lithog. photoimaging with fullerene photosensitizer)
- IT 302591-47-5D, oxidized  
(lithog. imaging using photosensitive polyimide and fullerene sensitizer)
- IT 302809-77-4DP, oxidized  
(lithog. imaging using photosensitive polyimide and fullerene sensitizer)
- IT 99685-96-8, [5,6]Fullerene-C60-Ih  
(photosensitizer; lithog. imaging using photosensitive polyimide and fullerene sensitizer for singlet oxygen induced photooxidn. and crosslinking)
- IT 302809-77-4P  
(preparation of thermally stable polyimide for lithog. photoimaging with fullerene photosensitizer)
- IT 7782-44-7, Oxygen, processes  
(singlet excited; lithog. imaging using photosensitive polyimide and fullerene sensitizer for singlet oxygen induced photooxidn. and crosslinking)
- IT 79-29-8, 1,1,2,2-Tetramethylethane 96-48-0,  $\gamma$ -Butyrolactone  
(solvent; synthesis of thermally stable polyimide containing furan pendant group for lithog. photoimaging with fullerene photosensitizer)
- IT 302591-39-5P, 3,5-Bis(4-aminophenoxy)benzyl-2-furoate  
(synthesis of thermally stable polyimide containing furan pendant group for lithog. photoimaging with fullerene photosensitizer)
- IT 1107-00-2, 6FDA  
(synthesis of thermally stable polyimide containing furan pendant group for lithog. photoimaging with fullerene photosensitizer)
- IT 302591-43-1P 302591-47-5P  
(thermally stable photosensitive polyimide and its lithog. imaging based on fullerene sensitized photooxidn. and crosslinking)

REFERENCE COUNT: 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L45 ANSWER 13 OF 53 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2000:117108 HCAPLUS Full-text

DOCUMENT NUMBER: 132:152356

TITLE: Aromatic polyimides containing crosslinkable groups and process for their producing

INVENTOR(S): Shibuya, Atsushi; Okumura, Tomomi; Oikawa, Hideaki; Sakata, Yoshihiro; Kuroki, Takashi; Okawa, Yuichi; Tamai, Shoji

PATENT ASSIGNEE(S): Mitsui Chemicals, Incorporated, Japan

SOURCE: PCT Int. Appl., 190 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

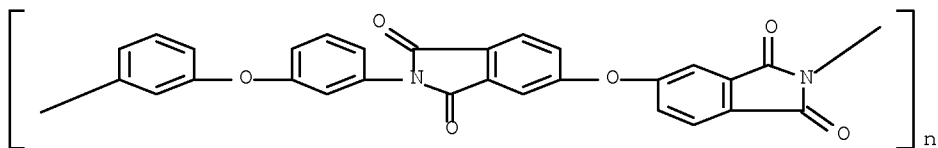
LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

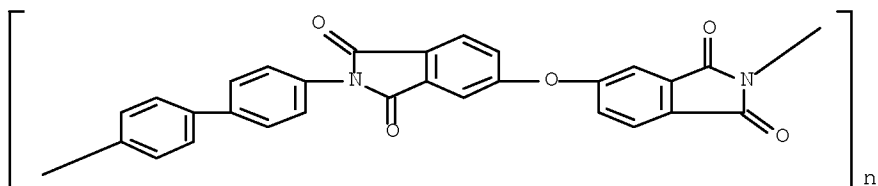
10/531,629

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000008090	A1	20000217	WO 1999-JP4273	19990806
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RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
JP 2000344888	A	20001212	JP 1999-224643	19990806
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EP 1148078	A1	20011024	EP 1999-935094	19990806
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EP 1148078	B1	20061129		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
US 6531568	B1	20030311	US 2001-762260	20010409
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PRIORITY APPLN. INFO.:			JP 1998-223362	A 19980806
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			JP 1999-90454	A 19990331
<--				
			JP 1999-90455	A 19990331
<--				
			WO 1999-JP4273	W 19990806
<--				
ED	Entered STN: 18 Feb 2000			
AB	The polyimides comprise the backbone structure of any of various known thermoplastic polyimides and bear crosslinkable groups in their structure. The polyimides are significantly superior in heat resistance, chemical resistance, and mech. properties to the known polyimides while retaining the intact moldability, sliding properties, low water absorption, elec. properties, thermal oxidative stability, and radiation resistance which are characteristic of the known polyimide structures. Examples of the polyimides include those derived from tetracarboxylic anhydrides with diamino ether compds., aromatic diamines containing ketone, sulfone or/and sulfide groups, and modified with, e.g., acetylene groups.			
IT	25722-34-3DP, reaction products with reactive end-capping agents 26615-47-4DP, reaction products with reactive end-capping agents 28780-59-8DP, reaction products with reactive end-capping agents 32201-82-4DP, reaction products with reactive end-capping agents 91993-30-5DP, reaction products with reactive end-capping agents 110563-85-4DP, reaction products with reactive end-capping agent mixture 110563-86-5DP, reaction products with reactive end-capping agent mixture 116964-65-9DP, reaction products with reactive end-capping agent mixture 117548-00-2DP, reaction products with reactive end-capping agent mixture 129401-97-4DP, reaction products with reactive end-capping agent mixture 156261-34-6DP, reaction products with reactive end-capping agents (aromatic polyimides containing crosslinkable groups and process for producing)			
RN	25722-34-3 HCAPLUS			
CN	Poly[(1,3-dihydro-1,3-dioxo-2H-isoindole-2,5-diyl)oxy(1,3-dihydro-1,3-dioxo-2H-isoindole-5,2-diyl)-1,3-phenyleneoxy-1,3-phenylene] (9CI) (CA INDEX NAME)			



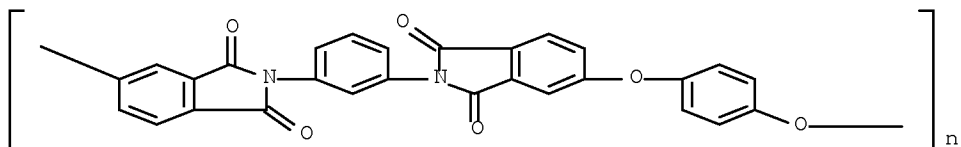
RN 26615-47-4 HCAPLUS

CN Poly[(1,3-dihydro-1,3-dioxo-2H-isoindole-2,5-diyl)oxy(1,3-dihydro-1,3-dioxo-2H-isoindole-5,2-diyl)[1,1'-biphenyl]-4,4'-diyl] (9CI) (CA INDEX NAME)



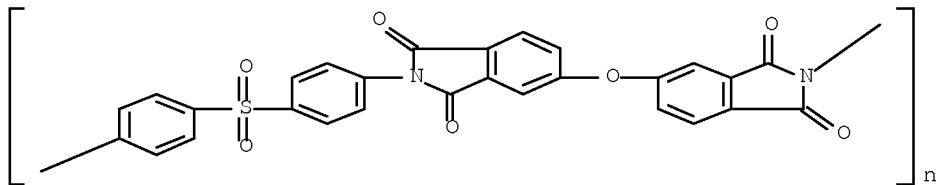
RN 28780-59-8 HCAPLUS

CN Poly[(1,3-dihydro-1,3-dioxo-2H-isoindole-5,2-diyl)-1,3-phenylene(1,3-dihydro-1,3-dioxo-2H-isoindole-2,5-diyl)oxy-1,4-phenyleneoxy] (9CI) (CA INDEX NAME)



RN 32201-82-4 HCAPLUS

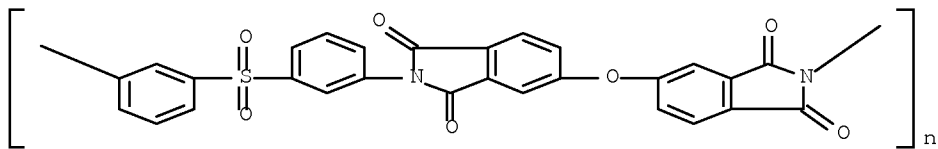
CN Poly[(1,3-dihydro-1,3-dioxo-2H-isoindole-2,5-diyl)oxy(1,3-dihydro-1,3-dioxo-2H-isoindole-5,2-diyl)-1,4-phenylenesulfonyl-1,4-phenylene] (CA INDEX NAME)



RN 91993-30-5 HCAPLUS

10/531,629

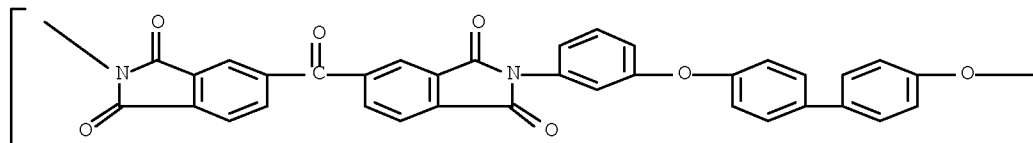
CN Poly[(1,3-dihydro-1,3-dioxo-2H-isoindole-2,5-diyl)oxy(1,3-dihydro-1,3-dioxo-2H-isoindole-5,2-diyl)-1,3-phenylenesulfonyl-1,3-phenylene] (CA INDEX NAME)



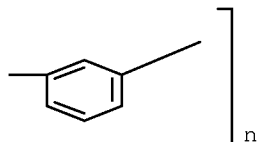
RN 110563-85-4 HCAPLUS

CN Poly[(1,3-dihydro-1,3-dioxo-2H-isoindole-2,5-diyl)carbonyl(1,3-dihydro-1,3-dioxo-2H-isoindole-5,2-diyl)-1,3-phenyleneoxy[1,1'-biphenyl]-4,4'-diyloxy-1,3-phenylene] (CA INDEX NAME)

PAGE 1-A



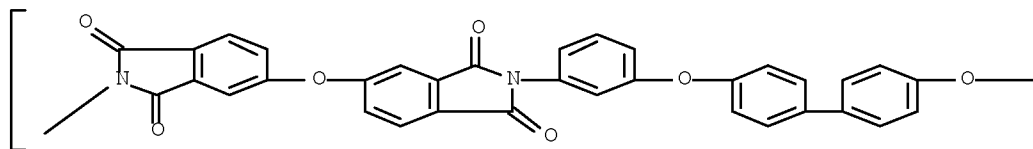
PAGE 1-B



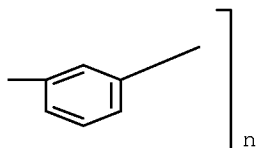
RN 110563-86-5 HCAPLUS

CN Poly[(1,3-dihydro-1,3-dioxo-2H-isoindole-2,5-diyl)oxy(1,3-dihydro-1,3-dioxo-2H-isoindole-5,2-diyl)-1,3-phenyleneoxy[1,1'-biphenyl]-4,4'-diyloxy-1,3-phenylene] (CA INDEX NAME)

PAGE 1-A

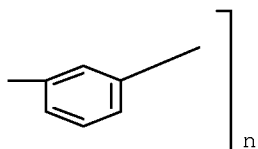
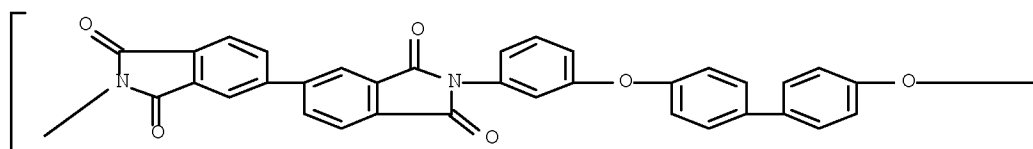






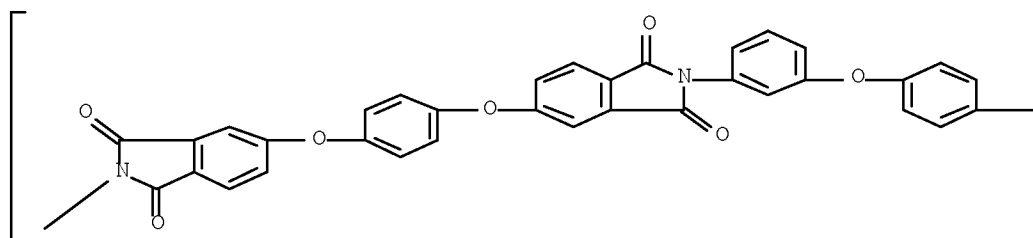
RN 116964-65-9 HCAPLUS

CN Poly[(1,1',3,3'-tetrahydro-1,1',3,3'-tetraoxo[5,5'-bi-2H-isoindole]-2,2'-diyl)-1,3-phenyleneoxy[1,1'-biphenyl]-4,4'-diyloxy-1,3-phenylene] (9CI) (CA INDEX NAME)

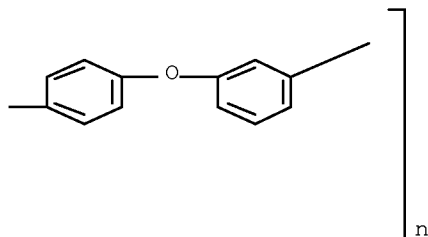


RN 117548-00-2 HCAPLUS

CN Poly[(1,3-dihydro-1,3-dioxo-2H-isoindole-2,5-diyl)oxy-1,4-phenyleneoxy(1,3-dihydro-1,3-dioxo-2H-isoindole-5,2-diyl)-1,3-phenyleneoxy[1,1'-biphenyl]-4,4'-diyloxy-1,3-phenylene] (9CI) (CA INDEX NAME)



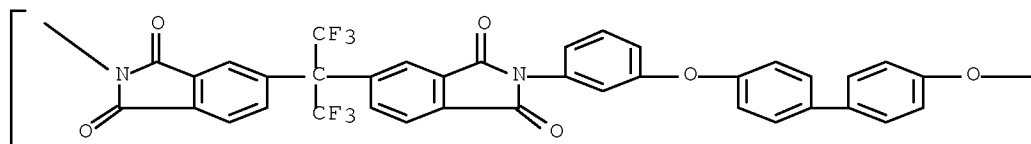
PAGE 1-B



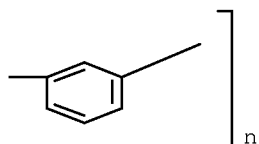
RN 129401-97-4 HCAPLUS

CN Poly[(1,3-dihydro-1,3-dioxo-2H-isoindole-2,5-diyl)[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene](1,3-dihydro-1,3-dioxo-2H-isoindole-5,2-diyl)-1,3-phenyleneoxy[1,1'-biphenyl]-4,4'-diyloxy-1,3-phenylene] (9CI) (CA INDEX NAME)

PAGE 1-A

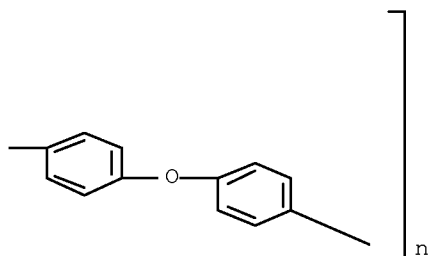
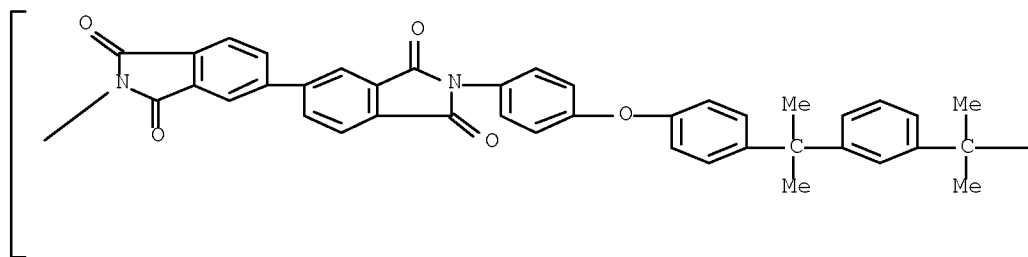


PAGE 1-B



RN 156261-34-6 HCAPLUS

CN Poly[(1,1',3,3'-tetrahydro-1,1',3,3'-tetraoxo[5,5'-bi-2H-isoindole]-2,2'-diyl)-1,4-phenyleneoxy-1,4-phenylene(1-methylethylidene)-1,3-phenylene(1-methylethylidene)-1,4-phenyleneoxy-1,4-phenylene] (9CI) (CA INDEX NAME)



IC ICM C08G073-10  
 CC 35-5 (Chemistry of Synthetic High Polymers)  
 ST thermoplastic arom polyimide acetylene group crosslinkable; chem  
 resistance thermoplastic arom polyimide; heat  
 resistance thermoplastic arom polyimide  
 IT 62-53-3DP, Aniline, reaction products with polyimide based polymers  
 and other reactive capping agents 85-44-9DP, Phthalic anhydride,  
 reaction products with polyimide based polymers and other reactive  
 capping agents 90-41-5DP, 2-Aminobiphenyl, reaction products with  
 polyimide based polymers and other reactive capping agents  
 108-31-6DP, Maleic anhydride, reaction products with polyimide based  
 polymers and other reactive capping agents 616-02-4DP,  
 2-Methylmaleic anhydride, reaction products with polyimide based  
 polymers and other reactive capping agents 826-62-0DP,  
 5-Norbornene-2,3-dicarboxylic anhydride, reaction products with  
 polyimide based polymers and other reactive capping agents  
 15411-43-5DP, 3-Aminostyrene, reaction products with polyimide based  
 polymers and other reactive capping agents 25722-34-3DP,  
 reaction products with reactive end-capping agents 25736-02-1DP,  
 4,4'-Diaminodiphenyl ether-4,4'-Oxydiphthalic dianhydride copolymer,  
 reaction products with reactive end-capping agents 25916-12-5DP,  
 Bis(3,4-dicarboxyphenyl) ether dianhydride-3,3'-diaminodiphenyl ether  
 copolymer, reaction products with reactive end-capping agents  
 26615-47-4DP, reaction products with reactive end-capping  
 agents 28390-51-4DP, 1,4-Bis(3,4-dicarboxyphenoxy)benzene  
 dianhydride-m-phenylenediamine copolymer, reaction products with  
 reactive end-capping agents 28780-59-8DP, reaction products  
 with reactive end-capping agents 32201-82-4DP, reaction

products with reactive end-capping agents 51624-44-3DP,  
 3-(Phenylethynyl)aniline, reaction products with polyimide based  
 polymers and other reactive capping agents 54060-30-9DP,  
 3-Ethynylaniline, reaction products with polyimide based polymers and  
 other reactive capping agents 64427-92-5DP, reaction products with  
 reactive end-capping agents 73819-76-8DP, 4-Ethynylphthalic  
 anhydride, reaction products with polyimide based polymers and other  
 reactive capping agents 74951-85-2DP, Bis[4-(3-aminophenoxy)phenyl]  
 sulfone-pyromellitic dianhydride copolymer, reaction products with  
 reactive end-capping agent mixture 74951-91-0DP, 4,4'-Diaminodiphenyl  
 sulfone-4,4'-oxydiphthalic dianhydride copolymer, reaction products  
 with reactive end-capping agents 74970-08-4DP, reaction products  
 with reactive end-capping agent mixture 91993-30-5DP, reaction  
 products with reactive end-capping agents 92004-90-5DP,  
 3,3'-Diaminodiphenyl sulfone-4,4'-Oxydiphthalic dianhydride copolymer,  
 reaction products with reactive end-capping agents 101061-76-1DP,  
 reaction products with reactive end-capping agents 104491-51-2DP,  
 reaction products with reactive end-capping agents 104764-01-4DP,  
 3,3',4,4'-Biphenyltetracarboxylic dianhydride-3,4'-diaminodiphenyl  
 ether copolymer, reaction products with reactive end-capping agents  
 105030-42-0DP, 3,4'-Diaminodiphenyl ether-4,4'-Oxydiphthalic  
 dianhydride copolymer, reaction products with reactive end-capping  
 agents 105156-69-2DP, 4,4'-Bis(3-aminophenoxy)biphenyl-pyromellitic  
 dianhydride copolymer sru, reaction products with reactive end-capping  
 agent mixture 105218-97-1DP, 4,4'-Bis(3-aminophenoxy)biphenyl-  
 pyromellitic dianhydride copolymer, reaction products with reactive  
 end-capping agent mixture 105241-60-9DP, Bis[4-(3-aminophenoxy)phenyl]  
 ketone-pyromellitic dianhydride copolymer, reaction products with  
 reactive end-capping agent mixture 105359-96-4DP, reaction products  
 with reactive end-capping agent mixture 110563-82-1DP, reaction  
 products with reactive end-capping agent mixture 110563-85-4DP  
 , reaction products with reactive end-capping agent mixture  
 110563-86-5DP, reaction products with reactive end-capping  
 agent mixture 110586-37-3DP, Bis[4-(3-aminophenoxy)phenyl]  
 sulfide-pyromellitic dianhydride copolymer, reaction products with  
 reactive end-capping agent mixture 110586-39-5DP, 3,3',4,4'-  
 Benzophenonetetracarboxylic dianhydride-4,4'-bis(3-  
 aminophenoxy)biphenyl copolymer, reaction products with reactive  
 end-capping agent mixture 110586-40-8DP, 4,4'-Bis(3-  
 aminophenoxy)biphenyl-4,4'-oxydiphthalic dianhydride copolymer,  
 reaction products with reactive end-capping agent mixture  
 110656-20-7DP, reaction products with reactive end-capping agents  
 110712-31-7DP, reaction products with reactive end-capping agents  
 110749-59-2DP, 4,4'-Bis(3-aminophenoxy)biphenyl-4,4'-diaminodiphenyl  
 ether-pyromellitic dianhydride copolymer, reaction products with  
 reactive end-capping agent mixture 110970-31-5DP, 1,3-Bis(3-  
 aminophenoxy)benzene-4,4'-bis(3-aminophenoxy)biphenyl-pyromellitic  
 dianhydride copolymer, reaction products with reactive end-capping  
 agent mixture 116964-55-7DP, 3,3',4,4'-Biphenyltetracarboxylic  
 dianhydride-4,4'-bis(3-aminophenoxy)biphenyl copolymer, reaction  
 products with reactive end-capping agent mixture 116964-65-9DP  
 , reaction products with reactive end-capping agent mixture  
 117547-82-7DP, reaction products with reactive end-capping agent mixture  
 117548-00-2DP, reaction products with reactive end-capping  
 agent mixture 119389-05-8DP, reaction products with polyimide based  
 polymers and other reactive capping agents 122590-18-5DP, reaction  
 products with polyimide based polymers and other reactive capping  
 agents 129401-96-3DP, reaction products with reactive end-capping  
 agent mixture 129401-97-4DP, reaction products with reactive  
 end-capping agent mixture 129676-85-3DP, reaction products with

reactive end-capping agent mixture 129676-86-4DP, 4,4'-Bis(3-aminophenoxy)biphenyl-3,3'-diaminodiphenyl ether-pyromellitic dianhydride copolymer, reaction products with reactive end-capping agent mixture 129676-89-7DP, 3,3',4,4'-Biphenyltetracarboxylic dianhydride-4,4'-bis(3-aminophenoxy)biphenyl-4,4'-diaminodiphenyl ether-pyromellitic dianhydride copolymer, reaction products with reactive end-capping agent mixture 136231-91-9DP, reaction products with reactive end-capping agents 142280-61-3DP, reaction products with reactive end-capping agents 145584-79-8DP, 3,3',4,4'-Benzophenonetetracarboxylic dianhydride-4,4'-bis(3-aminophenoxy)biphenyl-pyromellitic dianhydride copolymer, reaction products with reactive end-capping agents 151958-39-3DP, reaction products with reactive end-capping agents 155912-62-2DP, 3,3',4,4'-Biphenyltetracarboxylic dianhydride-4,4'-bis(3-aminophenoxy)biphenyl-pyromellitic dianhydride copolymer, reaction products with reactive end-capping agent mixture 156261-33-5DP, reaction products with reactive end-capping agent mixture 156261-34-6DP, reaction products with reactive end-capping agents 159507-07-0DP, 3,3',4,4'-Biphenyltetracarboxylic dianhydride-bis(3,4-dicarboxyphenyl) ether dianhydride-3,4'-diaminodiphenyl ether copolymer, reaction products with reactive end-capping agents 181709-21-7DP, reaction products with reactive end-capping agent mixture 181709-24-0DP, reaction products with reactive end-capping agent mixture 186612-18-0DP, reaction products with polyimide based polymers and other reactive capping agents 258288-02-7DP, 2,2-Bis[3-(3-aminophenoxy)phenyl]-1,1,1,3,3,3-hexafluoropropane-pyromellitic dianhydride copolymer, reaction products with reactive end-capping agent mixture 258288-06-1DP, 1,3-Bis(3-aminophenoxy)-4-trifluoromethylbenzene;4,4'-bis(3-aminophenoxy)biphenyl;pyromellitic dianhydride copolymer, reaction products with reactive end-capping agent mixture 258288-09-4DP, reaction products with reactive end-capping agent mixture 258288-11-8DP, reaction products with reactive end-capping agent mixture 258288-13-0DP, reaction products with reactive end-capping agent mixture 258288-15-2DP, reaction products with reactive end-capping agent mixture 258288-17-4DP, 3,3',4,4'-Biphenyltetracarboxylic dianhydride-4,4'-bis(3-aminophenoxy)biphenyl-3,3'-diaminodiphenyl ether-pyromellitic dianhydride copolymer, reaction products with reactive end-capping agent mixture 258288-19-6DP, 1,3-Bis(3-aminophenoxy)benzene-4,4'-bis(3-aminophenoxy)biphenyl-3,3'-diaminodiphenyl ether-pyromellitic dianhydride copolymer, reaction products with reactive end-capping agent mixture 258288-21-0DP, reaction products with reactive end-capping agent mixture 258288-23-2DP, 3,3',4,4'-Biphenyltetracarboxylic dianhydride-bis[4-(3-aminophenoxy)phenyl] ketone-pyromellitic dianhydride copolymer, reaction products with reactive end-capping agent mixture 258288-25-4DP, 3,3',4,4'-Benzophenonetetracarboxylic dianhydride-bis[4-(3-aminophenoxy)phenyl] sulfone-3,3'-diamino-4,4'-diphenoxybenzophenone copolymer, reaction products with reactive end-capping agent mixture 258288-27-6DP, reaction products with reactive end-capping agent mixture 258288-35-6DP, reaction products with reactive end-capping agents 258288-37-8DP, reaction products with reactive end-capping agents 258288-41-4DP, 1,4-Bis(3,4-dicarboxyphenoxy)benzene dianhydride-4,4'-diaminodiphenyl ether-3,3'-diaminodiphenyl ether copolymer, reaction products with reactive end-capping agents 258288-43-6DP, reaction products with reactive end-capping agents 258288-45-8DP, reaction products with reactive end-capping agents 258288-47-0DP, reaction products with reactive end-capping agents 258288-49-2DP, reaction products with reactive end-capping agents 258288-52-7DP, reaction products with reactive end-capping agents

258288-55-0DP, reaction products with reactive end-capping agents  
 258288-58-3DP, reaction products with reactive end-capping agents  
 258288-62-9DP, reaction products with polyimide based polymers and  
 other reactive capping agents 258288-66-3DP, reaction products with  
 polyimide based polymers and other reactive capping agents  
 258288-68-5DP, reaction products with polyimide based polymers and  
 other reactive capping agents  
 (aromatic polyimides containing crosslinkable groups and process for  
 producing)

REFERENCE COUNT: 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR  
 THIS RECORD. ALL CITATIONS AVAILABLE IN THE  
 RE FORMAT

L45 ANSWER 14 OF 53 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1999:805825 HCAPLUS Full-text

DOCUMENT NUMBER: 132:108403

TITLE: Poly(aryl ether)s containing o-terphenyl subunits.  
 II. Random poly(ether sulfone)s

AUTHOR(S): MacKinnon, Sean M.; Bender, Timothy P.; Wang, Zhi  
 Yuan

CORPORATE SOURCE: Department of Chemistry, Carleton University,  
 Ottawa, ON, K1S 5B6, Can.

SOURCE: Journal of Polymer Science, Part A: Polymer  
 Chemistry (2000), 38(1), 9-17  
 CODEN: JPACEC; ISSN: 0887-624X

PUBLISHER: John Wiley & Sons, Inc.

DOCUMENT TYPE: Journal

LANGUAGE: English

ED Entered STN: 22 Dec 1999

AB The prepare of N-2-pyridyl-4,4"-bis(4-fluorobenzenesulfonyl)-3',6'- dimethyl-  
 o-terphen yl-4',5'-dicarboximide and its copolymn. with bisphenol A and 4,4'-  
 difluorophenyl sulfone are reported. The incorporation of this monomer has an  
 observable effect the Tg of the polymer and its tendency for macrocyclic  
 oligomers during polymerization Replacement of the pyridyl imide group via a  
 transimidization reaction with propargyl amine proceeded quant. and without  
 polymer degradation The acetylene containing polymer was crosslinked by  
 simple thermal treatment, resulting in an increase in the Tg and improved  
 solvent resistance.

IT 255840-99-4DP, reaction products with propargylamine  
 (preparation and crosslinking of)

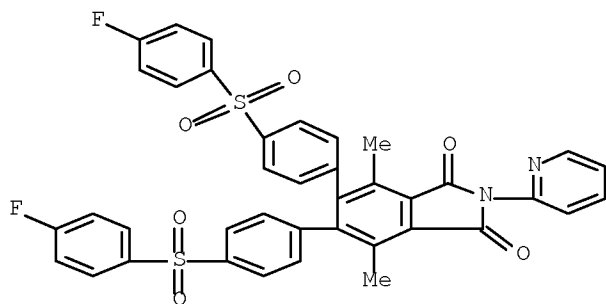
RN 255840-99-4 HCAPLUS

CN 1H-Isoindole-1,3(2H)-dione, 5,6-bis[4-[(4-  
 fluorophenyl)sulfonyl]phenyl]-4,7-dimethyl-2-(2-pyridinyl)-, polymer  
 with 4,4'-(1-methylethylidene)bis[phenol] and 1,1'-sulfonylbis[4-  
 fluorobenzene] (9CI) (CA INDEX NAME)

CM 1

CRN 255840-98-3

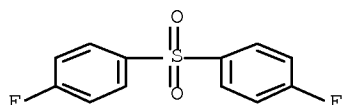
CMF C39 H26 F2 N2 O6 S2



CM 2

CRN 383-29-9

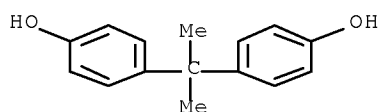
CMF C12 H8 F2 O2 S



CM 3

CRN 80-05-7

CMF C15 H16 O2



(prepn. and properties of

CC 35-5 (Chemistry of Synthetic High Polymers)

IT 2450-71-7DP, Propargylamine, reaction products with  
terphenyldicarboximide derivative copolymer 255840-99-4DP,  
reaction products with propargylamine

(preparation and crosslinking of)

IT 255840-99-4DP, reaction products with propargylamine

(preparation and properties of)

REFERENCE COUNT: 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR  
THIS RECORD. ALL CITATIONS AVAILABLE IN THE  
RE FORMAT

L45 ANSWER 15 OF 53 HCAPLUS COPYRIGHT 2008 ACS on STN

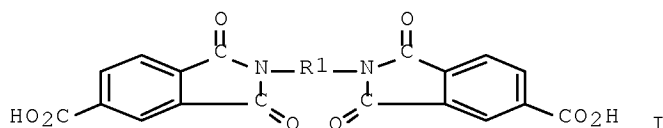
ACCESSION NUMBER: 1999:312766 HCAPLUS Full-text

DOCUMENT NUMBER: 130:352796

TITLE: Siloxane-containing poly(amide-imides), their manufacture from diimide dicarboxylic acids and diisocyanates, and their varnishes  
 INVENTOR(S): Takeuchi, Kazumasa; Nanaumi, Tadashi  
 PATENT ASSIGNEE(S): Hitachi Chemical Co., Ltd., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 13 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 11130832	A	19990518	JP 1997-297203	19971029
JP 3947944	B2	20070725		
PRIORITY APPLN. INFO.:			JP 1997-297203	19971029

ED Entered STN: 21 May 1999  
 GI



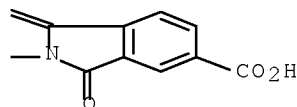
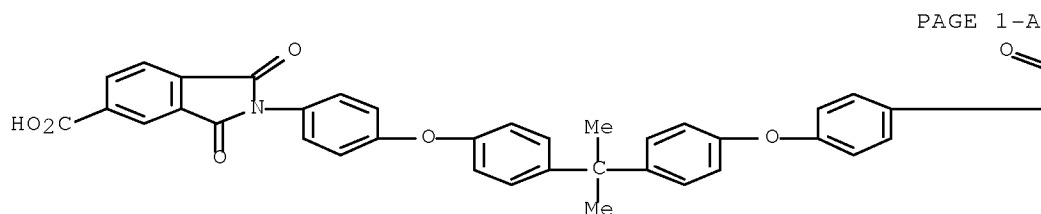
- AB The title solvent-soluble polymers with high mol. weight and good film formability, useful for heat-resistant varnishes, adhesives, adhesive films, etc., are manufactured by (1) reacting (A) diamines having  $\geq 3$  aromatic rings, (B) siloxane diamines, and (C) trimellitic anhydride at mol. ratio A/B = 99.9/0.1-0.1/99.9 and (A + B)/C = 1/2.05-1/2.20 in aprotic polar solvents at 50-90°, (2) adding 0.1-0.5 part (based on the solvents) aromatic hydrocarbons, which are azeotropically distillable with H<sub>2</sub>O, to the reaction system, (3) allowing the system to react at 120-180° to give diimide dicarboxylic acid mixts. I [R = R<sub>1</sub> and R<sub>2</sub>; R<sub>1</sub> = XO(C<sub>6</sub>H<sub>4</sub>)<sub>2</sub>; R<sub>2</sub> = R<sub>3</sub>(SiR<sub>5</sub>R<sub>7</sub>)<sub>n</sub>SiR<sub>6</sub>R<sub>8</sub>R<sub>4</sub>; X = CMe<sub>2</sub>(C<sub>6</sub>H<sub>4</sub>)<sub>2</sub>, SO<sub>2</sub>(C<sub>6</sub>H<sub>4</sub>)<sub>2</sub>, C(CF<sub>3</sub>)<sub>2</sub>(C<sub>6</sub>H<sub>4</sub>)<sub>2</sub>, CH<sub>2</sub>(C<sub>6</sub>H<sub>4</sub>)<sub>2</sub>, (C<sub>6</sub>H<sub>4</sub>)<sub>2</sub>, O(C<sub>6</sub>H<sub>4</sub>)<sub>2</sub>, CO(C<sub>6</sub>H<sub>4</sub>)<sub>2</sub>, C<sub>6</sub>H<sub>4</sub>; R<sub>3</sub>, R<sub>4</sub> = divalent organic group; R<sub>5</sub>-8 = alkyl, (un)substituted Ph; n = 1-50], and (4) reacting I with diisocyanates R<sub>9</sub>(NCO)<sub>2</sub> (R<sub>9</sub> = divalent aliphatic, alicyclic aliph) at mol. ratio (A + B)/(diisocyanate) 1/1.05-1/1.50. The mixts. I may comprise 2,2-bis[4-[4-(5-hydroxycarbonyl-1,3-dione-isoindolino)phenoxy]phenyl]propane (II) and bis(5-hydroxycarbonyl-1,3-dione-isoindolino)propylpoly(dimethylsiloxane). Varnishes containing the resulting polymers are also claimed. Thus, II 0.16, X 22-161AS (siloxane diamine) 0.04, and trimellitic anhydride 0.42 mol were stirred in 560 g N-methyl-2-pyrrolidone at 80° for 30 min, mixed with 100 mL toluene, refluxed at .apprx.160°, and heated at .apprx.190° to remove toluene and give an mixture, which was reacted with 0.24 mol isophorone diisocyanate at 190° to give a varnish of a siloxane-containing polyamide-polyimide having weight-average mol. weight 69,000. A film prepared from the varnish had glass transition temperature 195°.
- IT 125127-87-9DP, reaction products with trimellitic anhydride, polymers with siloxane diimide dicarboxylic acids and diisocyanates



(solvent-soluble siloxane-containing polyamide-polyimides with high mol. weight and good film formability, their manufacture, and their varnishes)

RN 125127-87-9 HCAPLUS

CN 1H-Isoindole-5-carboxylic acid, 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxy-4,1-phenylene)]bis[2,3-dihydro-1,3-dioxo- (CA INDEX NAME)



IC ICM C08G018-34

ICS C08L079-08; C08L083-08

CC 35-5 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 38, 42

ST siloxane polyamide polyimide manuf varnish; heat resistance

siloxane polyamide polyimide manuf; diimide dicarboxylic acid siloxane polyamide polyimide; bishydroxycarbonyldioneisoindolinophenoxyphenylpr

opane diimide dicarboxylic acid manuf; diamine siloxane diimide dicarboxylic acid manuf; trimellitic anhydride diimide dicarboxylic

acid manuf; methylpyrrolidone aprotic polar solvent diimide dicarboxylic acid; arom hydrocarbon water azeotropic distn; toluene

water azeotropic distn; isophorone diisocyanate siloxane polyamide polyimide manuf; film siloxane polyamide polyimide manuf

IT Heat-resistant materials

(films; solvent-soluble siloxane-containing polyamide-polyimides with high mol. weight and good film formability, their manufacture, and their varnishes)

IT Films

(heat-resistant; solvent-soluble siloxane-containing polyamide-polyimides with high mol. weight and good film formability, their manufacture, and their varnishes)

IT 552-30-7DP, Trimellitic anhydride, reaction products with diamines, polymers with diisocyanates 822-06-0DP, Hexamethylene diisocyanate, polymers with diimide dicarboxylic acids 4098-71-9DP, Isophorone diisocyanate, polymers with diimide dicarboxylic acids 97917-34-5DP, X 22-161AS, reaction products with trimellitic anhydride, polymers with aromatic diimide dicarboxylic acids and diisocyanates 125127-87-9DP, reaction products with trimellitic anhydride, polymers with siloxane diimide dicarboxylic acids and diisocyanates (solvent-soluble siloxane-containing polyamide-polyimides with high mol.

weight and good film formability, their manufacture, and their varnishes)

L45 ANSWER 16 OF 53 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1998:806535 HCAPLUS Full-text

DOCUMENT NUMBER: 130:110766

TITLE: Method for manufacture of hydrophilic polyamides bearing polyoxyalkylene pendants

INVENTOR(S): Suzuki, Kenji; Nishizawa, Hiroshi; Hirayama, Takao; Hirakura, Hiroaki

PATENT ASSIGNEE(S): Hitachi Chemical Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 10330481	A	19981215	JP 1998-80058	19980327
			<--	
US 6060215	A	20000509	US 1998-49056	19980327
			<--	
CN 1201164	A	19981209	CN 1998-109690	19980330
			<--	
TW 593397	B	20040621	TW 1998-87104821	19980331
			<--	
PRIORITY APPLN. INFO.:			JP 1997-80417	A 19970331
			<--	
			JP 1997-214810	A 19970808
			<--	

ED Entered STN: 24 Dec 1998

AB The polyamides are obtained by reacting hydrophilic dicarboxylic acids bearing polyoxyalkylene groups with diisocyanate or diamine compds., reacting the resulting polyamide intermediates with epoxy resins and crosslinking the resulting adducts with polycarboxylic acid monoanhydrides. Hydrophilic polyamides modified with acrylic compds. are useful for manufacture of printed circuit boards with good alkali developing property. Thus, heating Jeffamine D-2000 with trimellitic anhydride gave a hydrophilic dicarboxylic acid, 64.32 parts of which was mixed with adipic acid 4.88, sebacic acid 6.75, isophthalic acid 5.54, terephthalic acid 5.54, dimer acid 0.15, MDI 6.33, TDI 17.62 and  $\gamma$ -butyrolactone 120 parts, and the mixture heated to 200° under N over 1.5 h and at 200° for 3 h to give a polyamide intermediate. After cooling to 130°, the intermediate solution was combined with Epomik R 140P (bisphenol A diglycidyl ether polymer) 29.82 and DMF 40, heated at 130° for 1.5 h, cooled to 115°, mixed with methacrylic acid 5.83, antioxidant 0.58, and N,N-dimethylbenzylamine 1.97, held for 1.5 h, combined with tetrahydrophthalic anhydride 21.72 parts, half-esterified at the temperature for 2 h, cooled to 70°, mixed with 2-isocyanatoethyl methacrylate 2.46 parts, and heated at the same temperature for 1.5 h to give a photocurable polyamide resin.

IT 95823-42-0DP, polyamides with dimer acids, other polycarboxylic acids and polyisocyanates, reaction products with epoxy resin and isocyanates and acrylic compds. 219596-00-6DP, polyamides with dimer acids, other polycarboxylic acids and polyisocyanates, reaction products with epoxy resin and isocyanates and acrylic compds.

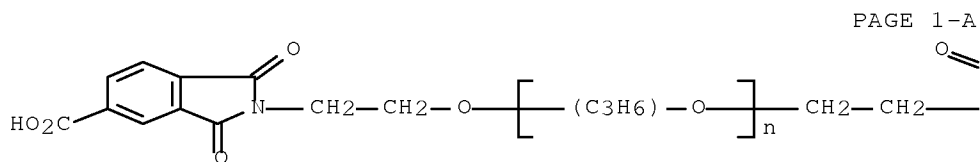
(photocurable compns.; manufacture of hydrophilic polyamides bearing polyoxyalkylene pendants and their photocurable compns.)

RN 95823-42-0 HCAPLUS

CN Poly[oxy(methyl-1,2-ethanediyl)],  $\alpha$ -[2-(5-carboxy-1,3-dihydro-

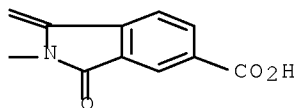
10/531,629

1,3-dioxo-2H-isoindol-2-yl)methylethyl]- $\omega$ -[2-(5-carboxy-1,3-dihydro-1,3-dioxo-2H-isoindol-2-yl)methylethoxy]- (CA INDEX NAME)



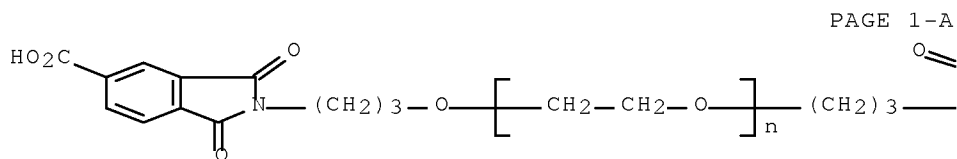
2 ( D1—Me )

PAGE 1-B

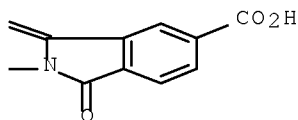


RN 219596-00-6 HCAPLUS

CN Poly(oxy-1,2-ethanediyl),  $\alpha$ -[3-(5-carboxy-1,3-dihydro-1,3-dioxo-2H-isoindol-2-yl)propyl]- $\omega$ -[3-(5-carboxy-1,3-dihydro-1,3-dioxo-2H-isoindol-2-yl)propoxy]- (9CI) (CA INDEX NAME)



PAGE 1-B



IC ICM C08G069-48

ICS G03F007-027; C08G018-48

CC 35-5 (Chemistry of Synthetic High Polymers)

IT Photoresists

Printed circuit boards

(manufacture of hydrophilic polyamides bearing polyoxyalkylene pendants and their photocurable compns.)

IT 79-41-4DP, Methacrylic acid, reaction products with epoxy resin-branched polyamide adducts and crosslinkers 85-43-8DP, Tetrahydrophthalic anhydride, reaction products with epoxy resin-branched polyamide adducts, methacrylates 100-21-0DP, Terephthalic acid, polyamide with polyoxyalkylene-branched dicarboxylic acids, dimer acids, other polycarboxylic acids, polyamines or polyisocyanates, reaction products with epoxy resins and acrylic compds. 101-68-8DP, MDI, polyamide with polyoxyalkylene-branched dicarboxylic acids, dimer acids, other polycarboxylic acids, reaction products with epoxy resins and acrylic compds. 111-20-6DP, Sebacic acid, polyamide with polyoxyalkylene-branched dicarboxylic acids, dimer acids, other polycarboxylic acids, polyamines or polyisocyanates, reaction products with epoxy resins and acrylic compds. 121-91-5DP, Isophthalic acid, polyamide with polyoxyalkylene-branched dicarboxylic acids, dimer acids, other polycarboxylic acids, polyamines or polyisocyanates, reaction products with epoxy resins and acrylic compds. 124-04-9DP, Adipic acid, polyamide with polyoxyalkylene-branched dicarboxylic acids, dimer acids, other polycarboxylic acids, polyamines or polyisocyanates, reaction products with epoxy resins and acrylic compds. 25085-99-8DP, Epomik R 140P, reaction products with polyamides bearing polyoxyalkylene pendants and acrylic compds. 26471-62-5DP, TDI, polyamide with polyoxyalkylene-branched dicarboxylic acids, dimer acids, other polycarboxylic acids, reaction products with epoxy resins and acrylic compds. 30674-80-7DP, 2-Isocyanatoethyl methacrylate, reaction products with epoxy resin-branched polyamide adducts, acrylic compds. and acid anhydride 63611-00-7DP, polyamides with dimer acids, other polycarboxylic acids and polyisocyanates, reaction products with epoxy resin and isocyanates and acrylic compds. 64772-16-3DP, Epomik R 301, reaction products with polyamides bearing polyoxyalkylene pendants and acrylic compds. 65605-36-9DP, Ethylene oxide-propylene oxide copolymer bis(2-aminopropyl)ether, diimide with trimellitic anhydride, polyamides with dimer acids, other polycarboxylic acids and polyisocyanates, reaction products with epoxy resin and isocyanates and acrylic compds. 95823-42-0DP, polyamides with dimer acids, other polycarboxylic acids and polyisocyanates, reaction products with epoxy resin and isocyanates and acrylic compds. 110368-93-9DP, Epo Tohto YDF 2001, reaction products with polyamides bearing polyoxyalkylene pendants and acrylic compds. 219596-00-6DP, polyamides with dimer acids, other polycarboxylic acids and polyisocyanates, reaction products with epoxy resin and isocyanates and acrylic compds. 219621-14-4DP, polyamides with dimer acids, other polycarboxylic acids and polyisocyanates, reaction products with epoxy resin and isocyanates and acrylic compds. (photocurable compns.; manufacture of hydrophilic polyamides bearing polyoxyalkylene pendants and their photocurable compns.)

L45 ANSWER 17 OF 53 HCAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 1998:659777 HCAPLUS Full-text  
 DOCUMENT NUMBER: 129:331131  
 TITLE: Preparation and properties of novel poly(urethane-imide)s  
 AUTHOR(S): Zuo, Min; Xiang, Qian; Takeichi, Tsutomu  
 CORPORATE SOURCE: School of Materials Science, Toyohashi University of Technology, Toyohashi, 441, Japan  
 SOURCE: Polymer (1998), 39(26), 6883-6889  
 CODEN: POLMAG; ISSN: 0032-3861  
 PUBLISHER: Elsevier Science Ltd.  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English

ED Entered STN: 20 Oct 1998

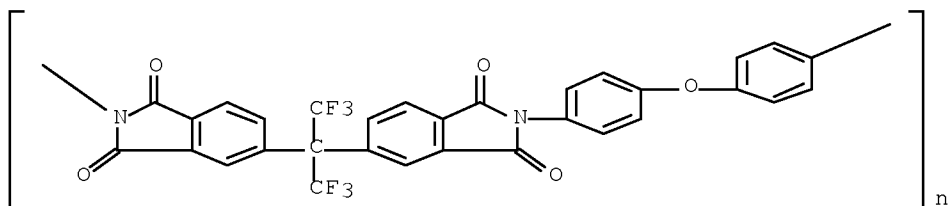
AB A series of poly(urethane-imide)s were prepared by a novel approach. Polyurethane (PU) prepolymer was prepared by the reaction of polyester polyol and 2,4-tolylene diisocyanate (2,4-TDI), and then end-capped with phenol. The PU prepolymer was blended with poly(amide acid) or oligo(amide acid) prepared from 2,2'-bis(3,4-dicarboxyphenyl)hexafluoropropane dianhydride (6FDA) and oxydianiline (ODA) at room temperature in various weight ratios. The blend films obtained by casting and then drying were not transparent, suggesting that phase separation occurred between the polyimide (PI) and PU components. The films became transparent, however, after thermal treatment at 100°C and then 200°C for 1 h each, irrespectively of the ratio of the two components. The poly(urethane-imide) films showed good solvent-resistance. Dynamic mech. anal. of the films showed that glass transition temps. (T<sub>g</sub>) shifted depending on the ratio of PI and PU components. This shift of T<sub>g</sub>, along with the transparency of the films, suggests that the PU and PI components employed here are miscible to some extent and that domains of each phase by microphase separation are small. Tensile measurement of the blend films from poly(amide acid) showed that the films are plastic or elastic, depending on the ratio of the components. Thermal stability of the PU was found to increase by the incorporation of polyimide component.

IT 39940-16-4DP, 2,2'-Bis(3,4-dicarboxyphenyl)hexafluoropropane dianhydride-4,4'-oxydianiline copolymer, sru, reaction products with phthalic anhydride

(preparation and properties of novel poly(urethane-imide)s)

RN 39940-16-4 HCAPLUS

CN Poly[(1,3-dihydro-1,3-dioxo-2H-isoindole-2,5-diyl)[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene](1,3-dihydro-1,3-dioxo-2H-isoindole-5,2-diyl)-1,4-phenyleneoxy-1,4-phenylene] (CA INDEX NAME)



CC 35-7 (Chemistry of Synthetic High Polymers)

IT 85-44-9DP, Phthalic anhydride, reaction products with polyimide oligomers 108-95-2DP, Phenol, reaction products with polyurethane, preparation 28132-94-7DP, Adipic acid-ethylene glycol-2,4-TDI copolymer, reaction products with phenol 32240-73-6DP, 2,2'-Bis(3,4-dicarboxyphenyl)hexafluoropropane dianhydride-4,4'-oxydianiline copolymer, reaction products with phthalic anhydride 39940-16-4DP, 2,2'-Bis(3,4-dicarboxyphenyl)hexafluoropropane dianhydride-4,4'-oxydianiline copolymer, sru, reaction products with phthalic anhydride

(preparation and properties of novel poly(urethane-imide)s)

REFERENCE COUNT: 29 THERE ARE 29 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L45 ANSWER 18 OF 53 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1998:555887 HCAPLUS Full-text

DOCUMENT NUMBER: 129:223257

TITLE: Positive-working photosensitive resin composition and production of relief and polyimide patterns using same

INVENTOR(S): Hagiwara, Hideo

PATENT ASSIGNEE(S): Hitachi Chemical Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.  
CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 10228110	A	19980825	JP 1997-31526	19970217

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PRIORITY APPLN. INFO.:	JP 1997-31526	19970217
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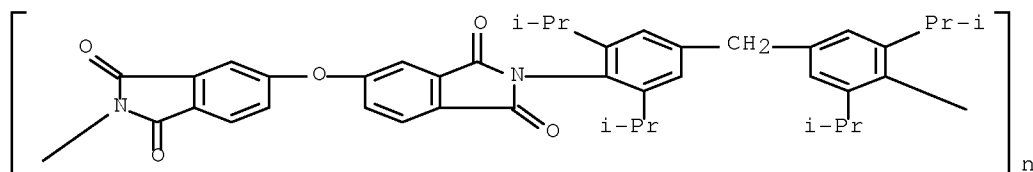
ED Entered STN: 01 Sep 1998

AB The title composition contains (a) a complex formed from an organic solvent-soluble polyimide and a basic compound, (b) a photoacid-generating agent, and (c) a solvent. A coating film of the composition is patternwise exposed with an active ray and developed to remove the exposed area to form a relief pattern, which is heat-treated to give a polyimide pattern. The composition shows stable viscosity and provides a high quality polyimide pattern with good profile and thermal resistance.

IT 212313-66-1DP, complexes with diethylamine  
(photoresist composition containing polyimide-base complex and photoacid generator)

RN 212313-66-1 HCAPLUS

CN Poly[(1,3-dihydro-1,3-dioxo-2H-isoindole-2,5-diyl)oxy(1,3-dihydro-1,3-dioxo-2H-isoindole-5,2-diyl)[2,6-bis(1-methylethyl)-1,4-phenylene]methylene[3,5-bis(1-methylethyl)-1,4-phenylene]] (9CI) (CA INDEX NAME)



IC ICM G03F007-039

ICS G03F007-004; G03F007-037; G03F007-40; H01L021-027; H01L021-312

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 38

IT Positive photoresists

(photoresist composition containing polyimide-base complex and photoacid generator)

IT 109-89-7DP, Diethylamine, complexes with polyimide 212313-63-8DP,

complexes with diethylamine 212313-64-9DP, complexes with

diethylamine 212313-65-0DP, complexes with diethylamine

212313-66-1DP, complexes with diethylamine

(photoresist composition containing polyimide-base complex and photoacid generator)

generator)

L45 ANSWER 19 OF 53 HCAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 1998:545696 HCAPLUS Full-text  
 DOCUMENT NUMBER: 129:223254  
 TITLE: Hydroxystyrene-based chemically amplified  
 positive-working photoresist composition  
 containing acid generator  
 INVENTOR(S): Tan, Shiro; Aogo, Toshiaki; Fujinomori, Susumu  
 PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 41 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 10221854	A	19980821	JP 1997-25369	19970207
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JP 3802179	B2	20060726		
US 6004721	A	19991221	US 1998-18883	19980205
			<--	
PRIORITY APPLN. INFO.:			JP 1997-25369	A 19970207
			<--	

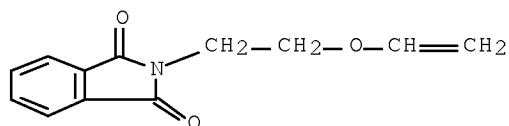
ED Entered STN: 27 Aug 1998

AB The composition contains (a) a phenolic OH-containing alkali-soluble resin of which 10-80% of the OH groups are substituted by a group OCHR<sub>1</sub>O(CH<sub>2</sub>)<sub>n</sub>W (R<sub>1</sub> = C<sub>1</sub>-4 alkyl; W = organic group containing ≥1 O, N, S, P, and Si, amino, ammonium, mercapto; n = 1-4), (b) a compound generating acid upon active ray or radiation irradiation, and (c) a solvent. The composition provides high resolution resist patterns with good profile and adhesion to substrate.

IT 67643-67-8DP, reaction products with polyhydroxystyrene  
 (hydroxystyrene-based chemical amplified pos.-working photoresist  
 containing acid generator)

RN 67643-67-8 HCAPLUS

CN 1H-Isoindole-1,3(2H)-dione, 2-[2-(ethenyloxy)ethyl]- (CA INDEX NAME)



IC ICM G03F007-039

ICS G03F007-039; H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other  
 Reprographic Processes)

Section cross-reference(s): 38, 76

IT Positive photoresists

(hydroxystyrene-based chemical amplified pos.-working photoresist  
 containing acid generator)

IT 6026-79-5DP, 2-Acetoxyethyl vinyl ether, reaction product with  
 poly(p-hydroxystyrene) 24979-70-2DP, Poly(p-hydroxystyrene),

reaction product with 2-acetoxyethyl vinyl ether 24979-71-3DP,  
 p-Hydroxystyrene-methyl methacrylate copolymer, reaction product with  
 2-acetoxyethyl vinyl ether 24979-74-6DP, p-Hydroxystyrene-styrene  
 copolymer, reaction product with 2-acetoxyethyl vinyl ether  
 41440-39-5DP, reaction products with polyhydroxystyrene  
 67643-67-8DP, reaction products with polyhydroxystyrene  
 71172-76-4DP, reaction products with polyhydroxystyrene  
 171429-59-7DP, p-Acetoxystyrene-p-hydroxystyrene copolymer, reaction  
 product with 2-acetoxyethyl vinyl ether  
 (hydroxystyrene-based chemical amplified pos.-working photoresist  
 containing acid generator)

L45 ANSWER 20 OF 53 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1998:479926 HCAPLUS Full-text

DOCUMENT NUMBER: 129:190041

TITLE: (Hydroxyphenyl)hydroxyphthalimides, their epoxy  
 derivatives, and thermosetting resin compositions  
 with good heat resistance and electric properties  
 INVENTOR(S): Hasegawa, Yoshikazu; Kajiwara, Yoshitaka; Oshimi,  
 Katsuhiko; Kogo, Makiko

PATENT ASSIGNEE(S): Nippon Kayaku Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

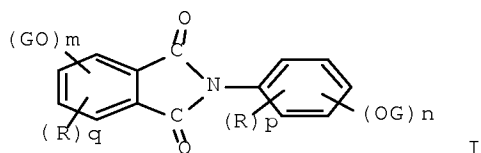
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 10195050	A	19980728	JP 1997-11944	19970107
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PRIORITY APPLN. INFO.:			JP 1997-11944	19970107
			<--	

OTHER SOURCE(S): MARPAT 129:190041

ED Entered STN: 03 Aug 1998

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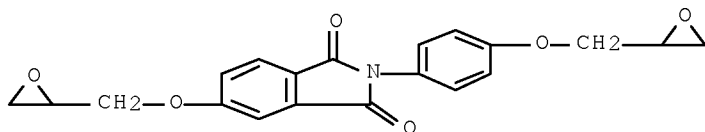


AB Resin compns. for electronic part sealing or laminated sheets contain (A) N-(hydroxyphenyl)hydroxyphthalimides I (R = alkyl, alkylene, aralkyl, aryl, halo, alkoxy; G = H; m, n = 1-2; p, q = 0-3), epoxy resins, and inorg. fillers or (B) I (G = 2,3-epoxypropyl) or their reaction products with I (G = H), hardeners, and inorg. fillers. Epoxy resins are manufactured by reacting I (G = H) with epihalohydrins and alkalies. Thus, imidation of 4-hydroxyphthalic acid with 4-aminophenol gave I [R = H, (OG)m = (OG)n = 4-OH], which was reacted with epichlorohydrin and Me3N-HCl in dioxane at 70-80° for 6 h to give



I [R = H, (OG)m = (OG)n = 4-(2,3-epoxypropyl)] (II). A cured product from II, phenol novolak, and PPh3 showed Tg 175°.

- IT 211694-85-8DP, polymers with phenol novolaks  
(preparation of phthalimide-containing epoxy resins for heat-resistant electronic part sealing compns. or laminated sheets)
- RN 211694-85-8 HCAPLUS
- CN 1H-Isoindole-1,3(2H)-dione, 5-(oxiranylmethoxy)-2-[4-(oxiranylmethoxy)phenyl]- (9CI) (CA INDEX NAME)



- IC ICM C07D209-48  
ICS C07D405-12; C08G059-26; C08G059-32; C08L063-00
- CC 37-3 (Plastics Manufacture and Processing)  
Section cross-reference(s): 27, 38, 76
- IT Phenolic resins, preparation  
(novolak, reaction products with phthalimide-containing epoxy compound; preparation of phthalimide-containing epoxy resins for heat-resistant electronic part sealing compns. or laminated sheets)
- IT Epoxy resins, preparation  
(reaction products with novolaks; preparation of phthalimide-containing epoxy resins for heat-resistant electronic part sealing compns. or laminated sheets)
- IT 211694-85-8DP, polymers with phenol novolaks  
(preparation of phthalimide-containing epoxy resins for heat-resistant electronic part sealing compns. or laminated sheets)

L45 ANSWER 21 OF 53 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1998:457363 HCAPLUS Full-text

DOCUMENT NUMBER: 129:142609

TITLE: Positive-working photosensitive resin composition, pattern formation, and manufacture of large-scale integrated circuit using same

INVENTOR(S): Mitsuwa, Takao; Okabe, Yoshiaki; Maegawa, Yasunari; Langlade, Geradine Rames; Ueno, Isao

PATENT ASSIGNEE(S): Hitachi, Ltd., Japan; Hitachi Chemical Co., Ltd.

SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 10186658	A	19980714	JP 1996-343595	19961224

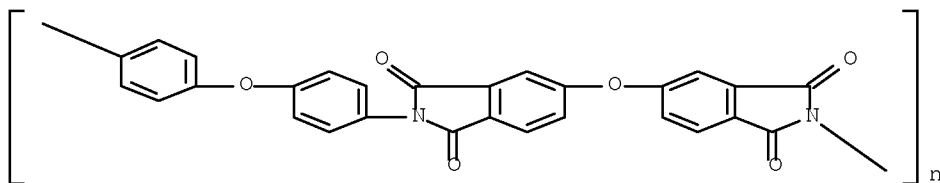
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PRIORITY APPLN. INFO.: JP 1996-343595 19961224

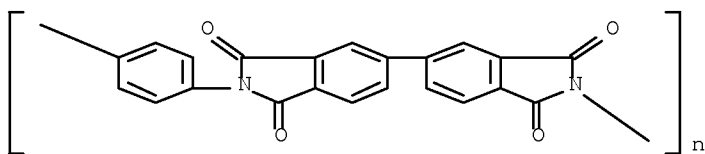
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ED Entered STN: 23 Jul 1998

- AB The title composition comprises a resin having a repeating unit  $R_3NHCOA(CO_2R_1)(CO_2R_2)CONH$  (A = tetravalent organic group constituting  $C \geq 4$  tetracarboxylic acids or their derivs.;  $R_1, R_2 = H$  or  $C \leq 20$  aliphatic carboxylic acid,  $\geq 1$  of  $R_1$  and  $R_2$  is not H;  $R_3 =$  divalent organic group constituting diamine), a diazoquinone compound 1-100, and a cresol novolak resin 1-30 parts per 100 parts of the resin component. The composition is coated on a substrate, irradiated the coating with an electromagnetic wave through a light-shielding mask, and developed to form a pattern. A method of manufacturing a large-scale integrated circuit involving the above procedure is also claimed. The composition shows high developability and thermal resistance and provides high resolution relief patterns with high mech. strength.
- IT 25735-00-6DF, ester with iodopropionic acid  
32197-39-0DF, 3,3',4,4'-Biphenyltetracarboxylic acid dianhydride-p-phenylene diamine copolymer, sru, ester with iodopropionic acid  
(photoresist composition containing polyamic acid ester, diazoquinone compound, and cresol novolak resin)
- RN 25735-00-6 HCAPLUS
- CN Poly[(1,3-dihydro-1,3-dioxo-2H-isoindole-2,5-diyl)oxy(1,3-dihydro-1,3-dioxo-2H-isoindole-5,2-diyl)-1,4-phenyleneoxy-1,4-phenylene] (CA INDEX NAME)



- RN 32197-39-0 HCAPLUS
- CN Poly[(1,1',3,3'-tetrahydro-1,1',3,3'-tetraoxo[5,5'-bi-2H-isoindole]-2,2'-diyl)-1,4-phenylene] (CA INDEX NAME)



- IC ICM G03F007-037  
ICS G03F007-022; G03F007-023; H01L021-027
- CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
Section cross-reference(s): 38, 76
- ST polyamic acid ester photoresist; diazoquinone compd photoresist;  
cresol novolak resin photoresist
- IT Phenolic resins, uses  
(novolak, cresol-based; photoresist composition containing polyamic acid ester, diazoquinone compound, and cresol novolak resin)

- IT Integrated circuits  
Positive photoresists  
(photoresist composition containing polyamic acid ester, diazoquinone compound, and cresol novolak resin)
- IT Polyamic acids  
(photoresist composition containing polyamic acid ester, diazoquinone compound, and cresol novolak resin)
- IT 25735-00-6DP, ester with iodopropionic acid 25736-02-1DP, ester with iodopropionic acid 26834-34-4DP, Iodopropionic acid, reaction products with diazoquinone and cresol novolak resin 29319-22-0DP, 3,3',4,4'-Biphenyltetracarboxylic acid dianhydride-p-phenylene diamine copolymer, ester with iodopropionic acid 32197-39-0DP, 3,3',4,4'-Biphenyltetracarboxylic acid dianhydride-p-phenylene diamine copolymer, sru, ester with iodopropionic acid  
(photoresist composition containing polyamic acid ester, diazoquinone compound, and cresol novolak resin)
- IT 27029-76-1, m-Cresol-p-cresol-formaldehyde copolymer 105935-62-4 125677-72-7, 4,4'-Bis(1,2-naphthoquinone-2-diazido-5-sulfonylamino)diphenyl ether 125677-75-0  
(photoresist composition containing polyamic acid ester, diazoquinone compound, and cresol novolak resin)

L45 ANSWER 22 OF 53 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1998:289696 HCAPLUS Full-text

DOCUMENT NUMBER: 129:29220

TITLE: Disazo pigment compositions with good dispersibility, fluidity, and moisture resistance for lithographic inks and their manufacture

INVENTOR(S): Konuma, Takeshi; Takami, Hisanori

PATENT ASSIGNEE(S): Dainippon Color and Chemicals Manufacturing Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 10120930	A	19980512	JP 1996-297917	19961023
			<--	
JP 3226805	B2	20011105		
PRIORITY APPLN. INFO.:			JP 1996-297917	19961023
			<--	

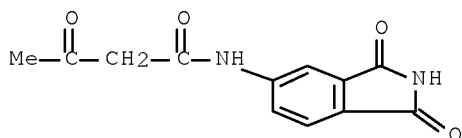
ED Entered STN: 18 May 1998

AB Title compns. are prepared by coupling tetrazolium salts of 3,3'-dichlorobenzidine (I)-based compds. with acetoacetoxyldide to form disazo pigment particles and then coating the particles with Ca or Al salts of rosin (abietic acid). Thus, 50.6 parts I was tetrazotized, coupled with 85.2 parts acetoacetomethoxyldide and 1.9 parts acetoaceto-2-carboxyanilide to form a pigment suspension, which was mixed with an aqueous solution containing dehydroabietic acid, CaCl<sub>2</sub> and AlCl<sub>3</sub>, and dried to give a pigment compn showing good pigment dispersibility, fluidity, and moisture resistance.

IT 68093-84-5DP, coupling with tetrazotized benzidine and acetoacetoxyldides

(disazo pigment compns. with good dispersibility, fluidity, and moisture resistance for lithog. inks)

RN 68093-84-5 HCAPLUS  
 CN Butanamide, N-(2,3-dihydro-1,3-dioxo-1H-isoindol-5-yl)-3-oxo- (CA  
 INDEX NAME)



IC ICM C09B067-08  
 ICS C09B063-00; C09B067-20; C09D011-02  
 CC 42-12 (Coatings, Inks, and Related Products)  
 Section cross-reference(s): 41  
 ST disazo pigment lithog ink dispersibility; fluidity disazo  
 pigment lithog ink; moisture resistance disazo pigment  
 lithog ink; tetrazotized dichlorobenzidine acetoacetoxyldide  
 coupling disazo pigment; calcium abietate coated disazo pigment ink;  
 aluminum abietate coated disazo pigment ink  
 IT Coupling agents  
 (disazo pigment compns. with good dispersibility, fluidity, and  
 moisture resistance for lithog. inks)  
 IT Inks  
 (lithog.; disazo pigment compns. with good  
 dispersibility, fluidity, and moisture resistance for  
 lithog. inks)  
 IT Resin acids  
 (salts, pigment coated with; disazo pigment compns. with good  
 dispersibility, fluidity, and moisture resistance for  
 lithog. inks)  
 IT Pigments, nonbiological  
 (yellow; disazo pigment compns. with good dispersibility, fluidity,  
 and moisture resistance for lithog. inks)  
 IT 92-15-9 4433-79-8, Acetoaceto-2,5-dimethoxy-4-chloroanilide  
 5102-83-0, Pigment yellow 13 6199-95-7 35354-86-0 68093-84-5  
 68610-86-6, Pigment yellow 127  
 (coupler; disazo pigment compns. with good dispersibility,  
 fluidity, and moisture resistance for lithog. inks)  
 IT 91-94-1DP, 3,3'-Dichlorobenzidine, tetrazotized, coupled with  
 acetoacetoxyldides 92-15-9DP, coupling with tetrazotized benzidine  
 and acetoacetoxyldides 119-90-4DP, 3,3'-Dimethoxybenzidine,  
 tetrazotized, coupled with acetoacetoxyldides 4433-79-8DP,  
 Acetoaceto-2,5-dimethoxy-4-chloroanilide, coupling with tetrazotized  
 benzidine and acetoacetoxyldides 5102-83-0DP, Pigment yellow 13,  
 coupling with tetrazotized benzidine and acetoacetanilide derivs.  
 6199-95-7DP, coupling with tetrazotized benzidine and  
 acetoacetoxyldides 35354-86-0DP, coupling with tetrazotized  
 benzidine and acetoacetoxyldides 68093-84-5DP, coupling  
 with tetrazotized benzidine and acetoacetoxyldides  
 (disazo pigment compns. with good dispersibility, fluidity, and  
 moisture resistance for lithog. inks)  
 IT 91-94-1, 3,3'-Dichlorobenzidine 119-90-4, 3,3'-Dimethoxybenzidine  
 (disazo pigment compns. with good dispersibility, fluidity, and  
 moisture resistance for lithog. inks)  
 IT 66604-45-3, Calcium dehydroabietate 207915-83-1  
 (pigment coated with; disazo pigment compns. with good

dispersibility, fluidity, and moisture resistance for  
lithog. inks)

L45 ANSWER 23 OF 53 HCAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 1998:224300 HCAPLUS Full-text  
 DOCUMENT NUMBER: 128:230812  
 TITLE: Thermal conversion of hydroxy-containing  
 polyimides to polybenzoxazoles  
 AUTHOR(S): Tullos, Gordon L.; Powers, Jason M.; Jeskey, Stacy  
 J.; Mathias, Lon J.  
 CORPORATE SOURCE: Department of Polymer Science, The University of  
 Southern Mississippi, Hattiesburg, MS, 39406-0076,  
 USA  
 SOURCE: Polymer Preprints (American Chemical Society,  
 Division of Polymer Chemistry) (1998),  
 39(1), 244-245  
 CODEN: ACPPAY; ISSN: 0032-3934  
 PUBLISHER: American Chemical Society, Division of Polymer  
 Chemistry  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English

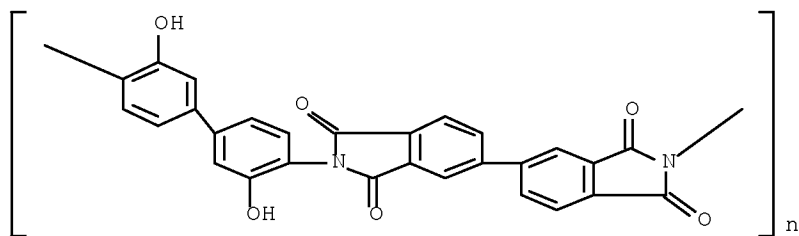
ED Entered STN: 22 Apr 1998

AB Aromatic imides containing a pendent hydroxyl group ortho to the heterocyclic  
 imide nitrogen were found to rearrange to benzoxazoles, with loss of carbon  
 dioxide, upon heating above 350°C in an inert atmospheric Hydroxy-containing  
 polyimide films based on 3,3',4,4'- biphenyltetracarboxylic dianhydride (BPDA)  
 and 3,3'-dihydroxy-4,4'- diaminobiphenyl (HAB) were converted to fully-  
 aromatic polybenzoxazoles by heating at 500°C for 1 h under nitrogen. The  
 resulting polybenzoxazole films were found to be amorphous by small angle X-  
 ray scattering. The films also displayed excellent solvent resistance and  
 good thermal stability by dynamic thermogravimetric anal. with 5% weight loss  
 in nitrogen occurring at 625°C.

IT 144096-53-7DP, thermally cyclized  
 (thermal conversion of hydroxy-containing polyimides to  
 polybenzoxazoles)

RN 144096-53-7 HCAPLUS

CN Poly[(1,1',3,3'-tetrahydro-1,1',3,3'-tetraoxo[5,5'-bi-2H-isoindole]-  
 2,2'-diyl)(3,3'-dihydroxy[1,1'-biphenyl]-4,4'-diyl)] (CA INDEX NAME)



CC 35-8 (Chemistry of Synthetic High Polymers)

IT 144096-53-7DP, thermally cyclized 144279-09-4DP, thermally  
 cyclized

(thermal conversion of hydroxy-containing polyimides to  
 polybenzoxazoles)

REFERENCE COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR  
 THIS RECORD. ALL CITATIONS AVAILABLE IN THE

## RE FORMAT

L45 ANSWER 24 OF 53 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1998:53384 HCAPLUS Full-text

DOCUMENT NUMBER: 128:134277

TITLE: Synthesis, characterization, and properties of a novel positive photoresist polyimide

AUTHOR(S): Ho, Bang-Chein; Chen, Jian-Hong; Perng, Wen-Chung; Lin, Chin-Lung; Chen, Li-Mei

CORPORATE SOURCE: Union Chemical Laboratories, Industrial Technology Research Institute, Hsinchu, 300, Taiwan

SOURCE: Journal of Applied Polymer Science (1998), 67(7), 1313-1318

CODEN: JAPNAB; ISSN: 0021-8995

PUBLISHER: John Wiley &amp; Sons, Inc.

DOCUMENT TYPE: Journal

LANGUAGE: English

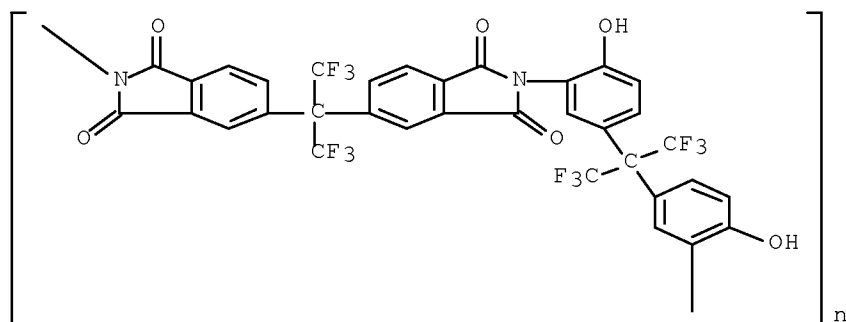
ED Entered STN: 30 Jan 1998

AB An aqueous base-soluble polyimide (BAPAF/6FDA) was obtained from the polycondensation of 2,2-bis(3-amino-4-hydroxyphenyl)hexafluoropropane (BAPAF) and 4,4'-hexafluoroisopropylidene-bis (phthalic anhydride) (6FDA). It exhibits high thermal stability and high transparency at 365 nm. A novel pos. photoresist was prepared by protecting BAPAF/6FDA with a trimethylsilyl group while using diazonaphthoquinone as the photosensitizer. The silylated polyimide was converted to aqueous base-soluble polyimide in the presence of an acid and a slight amount of H<sub>2</sub>O. This photoresist yields a sensitivity of 110 mJ/cm<sup>2</sup> and a contrast of 3.24.

IT 121334-09-6DP, reaction products with tri-Me silane  
(synthesis and properties of novel pos. photoresist polyimide with trimethylsilyl group)

RN 121334-09-6 HCAPLUS

CN Poly[(1,3-dihydro-1,3-dioxo-2H-isoindole-2,5-diyl)[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene](1,3-dihydro-1,3-dioxo-2H-isoindole-5,2-diyl)(6-hydroxy-1,3-phenylene)[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene](4-hydroxy-1,3-phenylene)] (CA INDEX NAME)



CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

IT Absorption spectra

IR spectra

Lithography

Photoresists

## Transparency

(synthesis and properties of novel pos. photoresist polyimide with trimethylsilyl group)

IT 1066-40-6DP, Trimethylsilanol, reaction products with polyimides  
 121333-85-5DP, reaction products with tri-Me silane  
 121334-09-6DP, reaction products with tri-Me silane  
 122983-64-6DP, reaction products with tri-Me silane  
 (synthesis and properties of novel pos. photoresist polyimide with trimethylsilyl group)

L45 ANSWER 25 OF 53 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1997:740056 HCAPLUS Full-text

DOCUMENT NUMBER: 128:41638

TITLE: Heat-sensitive composition and method of making lithographic plate using it

INVENTOR(S): Parsons, Gareth Rhodri; Riley, David Stephen; Hoare, Richard David; Monk, Alan Stanley Victor

PATENT ASSIGNEE(S): Horsell Graphic Industries Limited, UK; Parsons, Gareth Rhodri; Riley, David Stephen; Hoare, Richard David; Monk, Alan Stanley Victor

SOURCE: PCT Int. Appl., 38 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9739894	A1	19971030	WO 1997-GB1117	19970422
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W: AU, BR, CA, CN, CZ, GB, IL, JP, KR, NO, NZ, PL, RU, US, VN				
RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
WO 9707986	A2	19970306	WO 1996-GB1973	19960813
<--				
WO 9707986	A3	20010913		
W: AU, BR, CA, CN, GB, JP, MX, RU, US				
RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
AU 9723966	A	19971112	AU 1997-23966	19970422
<--				
AU 707872	B2	19990722		
EP 825927	A1	19980304	EP 1997-919526	19970422
<--				
EP 825927	B1	19990811		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
GB 2317457	A	19980325	GB 1997-25216	19970422
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GB 2317457	B	19990526		
JP 11506550	T	19990608	JP 1997-537850	19970422
<--				
JP 3147908	B2	20010319		
BR 9702181	A	19991228	BR 1997-2181	19970422
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RU 2153986	C2	20000810	RU 1998-101117	19970422
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IL 122318	A	20010128	IL 1997-122318	19970422
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10/531,629

DE 29724584	U1	20020523	DE 1997-29724584	19970422
			<--	
US 6280899	B1	20010828	US 2000-483990	20000118
			<--	
PRIORITY APPLN. INFO.:			GB 1996-8394	A 19960423
			<--	
			GB 1996-14693	A 19960712
			<--	
			WO 1996-GB1973	A 19960813
			<--	
			GB 1997-884	A 19970117
			<--	
			GB 1995-16723	A 19950815
			<--	
			WO 1997-GB1117	W 19970422
			<--	
			US 1997-981620	B3 19971222
			<--	

ED Entered STN: 24 Nov 1997

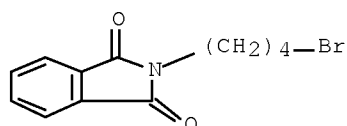
AB There is described coated on a lithog. plate base a complex of a developer-insol. phenolic resin and a compound which forms a thermally frangible complex with the phenolic resin. This complex is less soluble in the developer solution than the uncomplexed phenolic resin. However when this complex is imagewise heated the complex breaks down so allowing the uncomplexed phenolic resin to be dissolved in the developing solution. Thus the solubility differential between the heated areas of the phenolic resin and the unheated areas is increased when the phenolic resin is complexed. Preferably a laser radiation-absorbing material is also present on the lithog. base. A large number of compds. which form a thermally frangible complex with the phenolic resin are disclosed. Examples of such compds. are quinolinium compds., benzothiazolium compds., pyridinium compds. and imidazoline compds.

IT 5394-18-3D, N-(4-Bromobutyl)phthalimide, complexes with phenolic resins

(lithog. plate manufacture using heat-sensitive recording materials containing thermally frangible)

RN 5394-18-3 HCAPLUS

CN 1H-Isoindole-1,3(2H)-dione, 2-(4-bromobutyl)- (CA INDEX NAME)



IC ICM B41C001-10

ICS B41M005-36

CC 74-7 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST thermal lithog plate phenolic resin complex

IT Phenolic resins, uses

(R 17620; lithog. plate manufacture using heat-sensitive recording materials containing thermally frangible)

IT Phenolic resins, uses

(complexes; heat-sensitive recording materials for lithog. plate manufacture containing thermally frangible)

IT Lithographic plates



(heat-sensitive recording materials containing thermally frangible phenolic resin complexes for manufacture of)

- IT Recording materials  
(thermal; containing thermally frangible phenolic resin complexes for manufacture of lithog. plates)
- IT 9039-25-2, Bakelite LB 6564  
(Bakelite LB 6564; lithog. plate manufacture using heat-sensitive recording materials containing thermally frangible)
- IT 199444-11-6, KF 654B-PINA  
(KF 654B-PINA; lithog. plate manufacture using heat-sensitive recording materials containing thermally frangible)
- IT 9003-35-4, Phenol-formaldehyde polymer  
(R 17620; lithog. plate manufacture using heat-sensitive recording materials containing thermally frangible)
- IT 80-40-0D, Ethyl p-toluenesulfonate, complexes with phenolic resins 84-11-7D, Phenanthrenequinone, complexes with phenolic resins 90-47-1D, Xanthone, complexes with phenolic resins 98-59-9D, p-Toluenesulfonyl chloride, complexes with phenolic resins 119-61-9D, Benzophenone, complexes with phenolic resins 140-72-7D, Cetylpyridinium bromide, complexes with phenolic resins 487-26-3D, Flavanone, complexes with phenolic resins 494-38-2D, Acridine Orange Base, complexes with phenolic resins 525-82-6D, Flavone, complexes with phenolic resins 548-62-9D, Crystal violet, complexes with phenolic resins 604-59-1D,  $\alpha$ -Naphthoflavone, complexes with phenolic resins 634-21-9D, complexes with phenolic resins 1745-32-0D, 3-Ethyl-2-[3-ethyl-2(3H)benzothiazolyli-2-methyl-1-propenyl]benzothiazolium bromide, complexes with phenolic resins 1801-42-9D, complexes with phenolic resins 3119-93-5D, 3-Ethyl-2-methylbenzothiazolium iodide, complexes with phenolic resins 5394-18-3D, N-(4-Bromobutyl)phthalimide, complexes with phenolic resins 6051-87-2D,  $\beta$ -Naphthoflavone, complexes with phenolic resins 8044-71-1D, Cetrinide, complexes with phenolic resins 9004-39-1D, Cellulose acetate propionate, complexes 9011-13-6D, Maleic anhydride-styrene copolymer, ester derivs., complexes 18300-31-7D, 1-Ethyl-4-[5-(1-ethyl-4(1H)quinolinylidene)-1,3-pentadienyl]quinolinium iodide, complexes with phenolic resins 24979-70-2D, Maruka Lyncur MS-2, complexes 50774-69-1D, complexes with phenolic resins 52229-50-2D, Gantrez An119, complexes 53320-66-4D, Monazoline C, complexes with phenolic resins 53721-12-3D, complexes with phenolic resins 134127-48-3 199487-83-7D, Ronacoat 300, complexes 199487-84-8D, SMA 2625P, complexes 199487-85-9D, SMD 995, complexes  
(lithog. plate manufacture using heat-sensitive recording materials containing thermally frangible)

L45 ANSWER 26 OF 53 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1997:725266 HCAPLUS Full-text

DOCUMENT NUMBER: 127:346952

TITLE: Preparation of resins containing phenol derivatives from chloromethylstyrene-tetraethyleneglycol dimethacrylate copolymer beads and antibacterial activity of resins

AUTHOR(S): Nonaka, Takamasa; Uemura, Yasuko; Ohse, Katsuto; Jyono, Kohki; Kurihara, Seiji

CORPORATE SOURCE: Department of Applied Chemistry and Biochemistry, Kumamoto University, Kumamoto, 860, Japan

SOURCE: Journal of Applied Polymer Science (1997  
, 66(8), 1621-1630  
CODEN: JAPNAB; ISSN: 0021-8995

PUBLISHER: Wiley

DOCUMENT TYPE: Journal

LANGUAGE: English

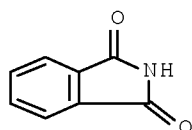
ED Entered STN: 17 Nov 1997

AB Copolymer beads (RCCS-4G) with many chloromethyl groups were prepared by treating macro-reticular chloromethylstyrene-tetraethyleneglycol dimethacrylate (4G) copolymer beads with chloromethylether. Copolymer beads (RAAS-4G) with benzylamino groups were prepared by treating RCCS-4G with potassium phthalimide. Then, copolymer beads containing phenol derivs. were prepared by treating RAAS-4G with p-hydroxybenzoic acid (p HBA), 2,4-dihydroxybenzoic acid (DHBA), and 3,4,5-trihydroxybenzoic acid (gallic acid, GA) in N,N- dimethylformamide, and the phenolic hydroxy group content was 2.3-7.7 mequiv/g. The antibacterial activity of the resins was examined against Escherichia coli and Staphylococcus aureus. The antibacterial activity of the resins containing various phenol derivs. against E. coli or S. aureus increased in the order of RAAS-4G-GA > RAAS-4G-DHBA > RAAS-4G-pHBA. The resins containing phenol derivs. exhibited higher antibacterial activity against E. coli than against S. aureus and high activity even against bacteria in NaCl solution. Scanning electron micrographs showed that high antibacterial activity was brought about by the phenolic hydroxyl groups in the resin.

IT 1074-82-4DP, Potassium phthalimide, reaction products with chloromethylstyrene-tetraethyleneglycol dimethacrylate copolymer, phenolic derivs.  
(preparation and antibacterial activity of phenolic chloromethylstyrene-tetraethyleneglycol dimethacrylate copolymer resins)

RN 1074-82-4 HCAPLUS

CN 1H-Isoindole-1,3(2H)-dione, potassium salt (1:1) (CA INDEX NAME)



● K

CC 37-3 (Plastics Manufacture and Processing)  
Section cross-reference(s): 63

IT 89-86-1DP, 2,4-Dihydroxybenzoic acid, reaction products with phthalimide derivs. of chloromethylstyrene-tetraethyleneglycol dimethacrylate copolymer 99-96-7DP, p-Hydroxybenzoic acid, reaction products with phthalimide derivs. of chloromethylstyrene-tetraethyleneglycol dimethacrylate copolymer 149-91-7DP, 3,4,5-Trihydroxybenzoic acid, reaction products with phthalimide derivs. of chloromethylstyrene-tetraethyleneglycol dimethacrylate copolymer 542-88-1DP, Chloromethylether, reaction products with chloromethylstyrene-tetraethyleneglycol dimethacrylate copolymer, phenolic derivs. 1074-82-4DP, Potassium phthalimide, reaction products with chloromethylstyrene-tetraethyleneglycol dimethacrylate copolymer, phenolic derivs. 166534-27-6DP, 4-Chloromethylstyrene-tetraethyleneglycol dimethacrylate copolymer,

chloromethylated, benzylamino and phenolic derivs.  
 (preparation and antibacterial activity of phenolic  
 chloromethylstyrene-tetraethyleneglycol dimethacrylate copolymer  
 resins)

REFERENCE COUNT: 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR  
 THIS RECORD. ALL CITATIONS AVAILABLE IN THE  
 RE FORMAT

L45 ANSWER 27 OF 53 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1997:597036 HCAPLUS Full-text

DOCUMENT NUMBER: 127:248495

TITLE: Negative-type soluble photosensitive polyimides  
 derived from benzhydroltetracarboxylic  
 dianhydride: synthesis and characterization

AUTHOR(S): Rames-Langlade, G.; Monjol, P.; Sekiguchi, H.;  
 Mercier, R.; Sillion, B.

CORPORATE SOURCE: Laboratoire de Chimie Macromoleculaire, URA 024,  
 Universite Pierre et Marie Curie, Paris, 75252,  
 Fr.

SOURCE: Polymer (1997), 38(19), 4965-4972  
 CODEN: POLMAG; ISSN: 0032-3861

PUBLISHER: Elsevier

DOCUMENT TYPE: Journal

LANGUAGE: English

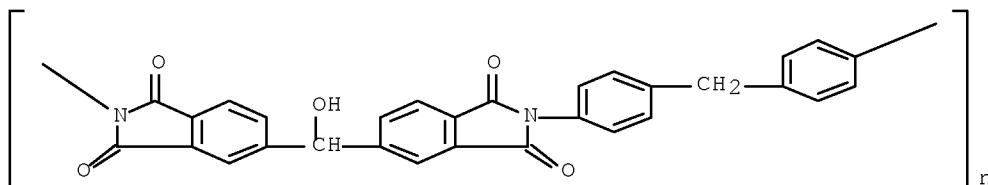
ED Entered STN: 18 Sep 1997

AB Neg.-type soluble photosensitive polyimides based on benzhydroltetracarboxylic  
 dianhydride were synthesized and characterized. The polymers were prepared  
 either by a thermal or chemical imidization, and the photoreactive  
 methacryloyl group was introduced through the reaction between the hydroxyl  
 group and the isocyanate group of methacryloyl isocyanate to yield a carbamate  
 linkage. Bis(4-aminophenyl)methane, bis(3,5-dimethyl-4-aminophenyl)methane and  
 bis(3-methyl-5-isopropyl-4-aminophenyl)methane were used as aromatic diamines,  
 and 1,1,1,3,3,3-hexafluoropropane-2,2-di(4'-phthalic anhydride) as an aromatic  
 dianhydride. An aromatic diamine, 4-N,N-dimethylamino-3'-5'-  
 diaminobenzophenone, was also used in order to produce an autophotosensitive  
 polymer. The resulting methacryloyl carbamate-modified polyimides were  
 soluble in polar solvents and were characterized by IR and 1H and 13C NMR  
 spectroscopies. Inherent viscosities, glass transition temps., thermal  
 behavior and dielec. consts. were also determined

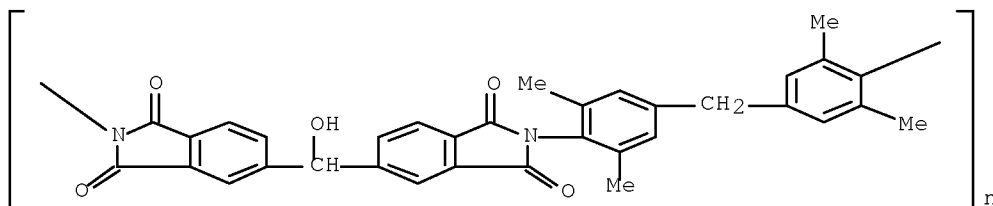
IT 86830-41-3DP, reaction products with methacryloyl isocyanate  
 195834-50-5DP, Benzhydroltetracarboxylic dianhydride-bis(3,5-  
 dimethyl-4-aminophenyl)methane copolymer, SRU, reaction products with  
 methacryloyl isocyanate  
 (synthesis and characterization of neg.-type soluble photosensitive  
 polyimides derived from benzhydroltetracarboxylic dianhydride)

RN 86830-41-3 HCAPLUS

CN Poly[(1,3-dihydro-1,3-dioxo-2H-isoindole-2,5-  
 diyl)(hydroxymethylene)(1,3-dihydro-1,3-dioxo-2H-isoindole-5,2-diyl)-  
 1,4-phenylenemethylene-1,4-phenylene] (9CI) (CA INDEX NAME)



RN 195834-50-5 HCAPLUS  
 CN Poly[(1,3-dihydro-1,3-dioxo-2H-isoindole-2,5-diyl)(hydroxymethylene)(1,3-dihydro-1,3-dioxo-2H-isoindole-5,2-diyl)(2,6-dimethyl-1,4-phenylene)methylene(3,5-dimethyl-1,4-phenylene)] (9CI) (CA INDEX NAME)



CC 35-5 (Chemistry of Synthetic High Polymers)  
 Section cross-reference(s): 37, 74  
 IT Negative photoresists  
 (synthesis and characterization of neg.-type soluble photosensitive polyimides derived from benzhydroltetracarboxylic dianhydride for)  
 IT 4474-60-6DP, Methacryloyl isocyanate, reaction products with benzhydroltetracarboxylic dianhydride-based polyimides  
 86830-41-3DP, reaction products with methacryloyl isocyanate  
 146125-81-7DP, Benzhydroltetracarboxylic dianhydride-bis(4-aminophenyl)methane copolymer, reaction products with methacryloyl isocyanate 195834-47-0DP, reaction products with benzhydroltetracarboxylic dianhydride-based polyimides  
 195834-48-1DP, reaction products with methacryloyl isocyanate  
 195834-49-2DP, reaction products with methacryloyl isocyanate  
 195834-50-SDP, Benzhydroltetracarboxylic dianhydride-bis(3,5-dimethyl-4-aminophenyl)methane copolymer, SRU, reaction products with methacryloyl isocyanate 195834-51-6P, Bis(4-aminophenyl)methane-bis(1,3-dihydro-1,3-dioxo-5-isobenzofuranyl)methyl (2-methyl-1-oxo-2-propenyl)carbamate copolymer 195834-52-7P, Bis(4-aminophenyl)methane-bis(1,3-dihydro-1,3-dioxo-5-isobenzofuranyl)methyl (2-methyl-1-oxo-2-propenyl)carbamate copolymer, SRU 195834-53-8P 195834-54-9P 195834-55-0P  
 (synthesis and characterization of neg.-type soluble photosensitive polyimides derived from benzhydroltetracarboxylic dianhydride)  
 REFERENCE COUNT: 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L45 ANSWER 28 OF 53 HCAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 1997:464867 HCAPLUS Full-text  
 DOCUMENT NUMBER: 127:101762  
 TITLE: Photoresist composition with good resolution and reproducibility  
 INVENTOR(S): Gokochi, Toru; Okino, Takeshi; Asakawa, Koji; Nakase, Makoto; Shinoda, Naomi  
 PATENT ASSIGNEE(S): Toshiba Corp., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 29 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent

LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 09127691	A	19970516	JP 1996-221230	19960822
			<--	
JP 3433017	B2	20030804		
US 5837419	A	19981117	US 1996-705260	19960829
			<--	
KR 202763	B1	19990615	KR 1996-36657	19960830
			<--	
US 6045968	A	20000404	US 1998-98537	19980617
			<--	
PRIORITY APPLN. INFO.:			JP 1995-223812	A 19950831
			<--	
			JP 1996-221230	A 19960822
			<--	
			US 1996-705260	A3 19960829
			<--	

ED Entered STN: 25 Jul 1997

AB The title composition comprises a resin capable of being decomposed by an acid, acid generator, and a naphthol novolak compound of mol. weight  $\leq 2,000$ . The acid-decomposable resin is a copolymer of a compound having an aliphatic skeleton.

IT 191940-13-3DP, desilylated  
 (prepared for photoresist composition)

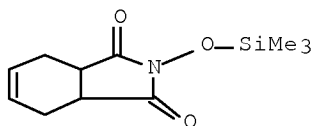
RN 191940-13-3 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 1,1-dimethylethyl ester, polymer with  
 3a,4,7,7a-tetrahydro-2-[(trimethylsilyl)oxy]-1H-isoindole-1,3(2H)-  
 dione (9CI) (CA INDEX NAME)

CM 1

CRN 191413-32-8

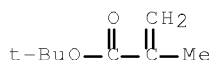
CMF C11 H17 N O3 Si



CM 2

CRN 585-07-9

CMF C8 H14 O2



IC ICM G03F007-023  
ICS C08L061-10; G03F007-004; G03F007-033; G03F007-038; G03F007-039;  
H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other  
Reprographic Processes)

ST photoresist compn acid decomposable resin; naphthol novolak  
compd photoresist compn

IT Photoresists  
(composition comprising acid-decomposable resin, acid generator and  
naphthol novolak compound)

IT Phenolic resins, preparation  
(novolak, naphthol-based; prepared for photoresist composition)

IT Phenolic resins, preparation  
(novolak, reaction products; prepared as acid-decomposable  
compound for photoresist composition)

IT 24979-70-2DP, Poly(p-hydroxystyrene), reaction product with di-t-Bu  
carbonate 25086-15-1P, Methacrylic acid-methyl methacrylate  
copolymer 25359-91-5P, Formaldehyde- $\alpha$ -naphthol copolymer  
34619-03-9DP, Di-tert-butyl carbonate, reaction product with  
poly(p-hydroxystyrene) 40114-03-2P, Butyral- $\alpha$ -naphthol  
copolymer 72145-62-1P, tert-Butyl methacrylate-methacrylic  
acid-methyl methacrylate copolymer 181017-30-1P, tert-Butyl  
methacrylate-menthyl methacrylate-methacrylic acid copolymer  
191413-28-2P 191940-12-2P, 2-Adamantyl methacrylate-tert-butyl  
methacrylate-methacrylic acid copolymer 191940-13-3DP,  
desilylated 191940-14-4DP, desilylated 191940-15-5P,  
Glyoxylaldehyde- $\alpha$ -naphthol copolymer  
(prepared for photoresist composition)

L45 ANSWER 29 OF 53 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1997:73586 HCAPLUS Full-text

DOCUMENT NUMBER: 126:144843

TITLE: Synthesis, thermal properties, and flame  
retardancy of phosphorus-containing polyimides

AUTHOR(S): Liu, Ying-Ling; Hsiue, Ging-Ho; Lan, Chih-Wein;  
Kuo, Jen-Kwan; Jeng, Ru-Jong; Chiu, Yie-Shun

CORPORATE SOURCE: Dep. Chem. Eng., Natl. Tsing Hua Univ., Hsinchu,  
Taiwan

SOURCE: Journal of Applied Polymer Science (1997  
) , 63(7), 875-882

CODEN: JAPNAB; ISSN: 0021-8995

PUBLISHER: Wiley

DOCUMENT TYPE: Journal

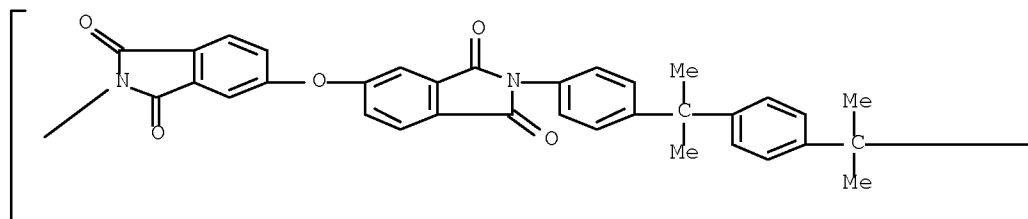
LANGUAGE: English

ED Entered STN: 01 Feb 1997

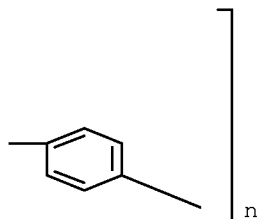
AB Phosphorus containing polyimides were prepared via phosphorylation of  
organosol. polyimides. This was achieved by phenoxaphosphine oxide ring  
formation reaction or esterification with di-Et chlorophosphate. The  
phosphorylation was confirmed by IR, <sup>31</sup>P NMR, and elemental anal. for  
phosphorus. Polyimides containing phosphorus of 8.3 and 5.4% by weight were  
found. Thermal characteristics and decomposition behavior of the resulting  
polyimides were investigated by differential scanning calorimetry and  
thermogravimetric anal. Introduction of phosphorus into polyimides slightly  
reduced their initial weight loss temps. and led to high char yields at temps.  
higher than 800°. Limiting oxygen index values higher than 48 were found for  
the phosphorylated polyimides. Such properties make these polymers useful in  
flame retardant applications.

IT 127432-99-9DP, phosphorylated  
 (preparation, thermal properties, and flame retardancy of  
 phosphorus-containing polyimides)  
 RN 127432-99-9 HCAPLUS  
 CN Poly[(1,3-dihydro-1,3-dioxo-2H-isoindole-2,5-diyl)oxy(1,3-dihydro-1,3-  
 dioxo-2H-isoindole-5,2-diyl)-1,4-phenylene(1-methylethylidene)-1,4-  
 phenylene(1-methylethylidene)-1,4-phenylene] (CA INDEX NAME)

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PAGE 1-B



CC 37-3 (Plastics Manufacture and Processing)  
 Section cross-reference(s): 35, 36  
 IT Fire-resistant materials  
 (phosphorus-containing polyether-polyimides)  
 IT 127432-99-9DP, phosphorylated 127470-22-8DP, phosphorylated  
 186593-73-7DP, oxo derivs., polymers 186672-47-9P 186672-48-0P  
 (preparation, thermal properties, and flame retardancy of  
 phosphorus-containing polyimides)  
 REFERENCE COUNT: 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR  
 THIS RECORD. ALL CITATIONS AVAILABLE IN THE  
 RE FORMAT

L45 ANSWER 30 OF 53 HCAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 1996:244793 HCAPLUS Full-text  
 DOCUMENT NUMBER: 124:318636  
 TITLE: Synthesis and characterization of self-metalizing  
 palladium-doped polyimide films  
 AUTHOR(S): Stoakley, Diane M.; St. Clair, Anne K.  
 CORPORATE SOURCE: NASA, Langley Research Center, Hampton, VA,  
 23681-0001, USA  
 SOURCE: Polymer Preprints (American Chemical Society,  
 Division of Polymer Chemistry) (1996),  
 37(1), 541-2

CODEN: ACPPAY; ISSN: 0032-3934

PUBLISHER: American Chemical Society, Division of Polymer Chemistry

DOCUMENT TYPE: Journal

LANGUAGE: English

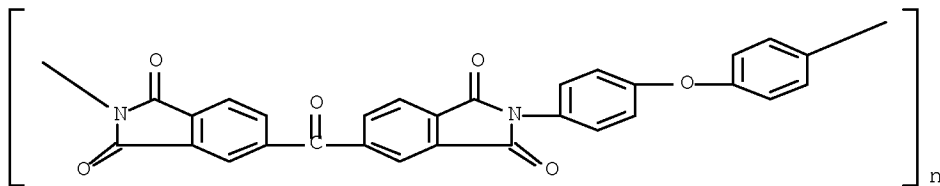
ED Entered STN: 25 Apr 1996

AB The effect of widely varying Pd concentration and of differing base resins on the formation of surface Pd layer and its correlation with the resistivity and reflectivity of the polyimide film was studied. Polyimide-fluoropolymers were used in the study. Thermal properties and surface elec. resistivity were studied.

IT 24991-11-5DP, complexes with palladium 79062-55-8DP, 6FDA-1,3-bis(aminophenoxy)benzene copolymer, sru, complexes with palladium 86676-55-3DP, 6FDA-3,3'-diaminodiphenylsulfone copolymer, sru, complexes with palladium 97969-58-9DP, 6FDA-3,3'-oxydianiline copolymer, sru, complexes with palladium (synthesis and characterization of self-metalizing palladium-doped polyimide films)

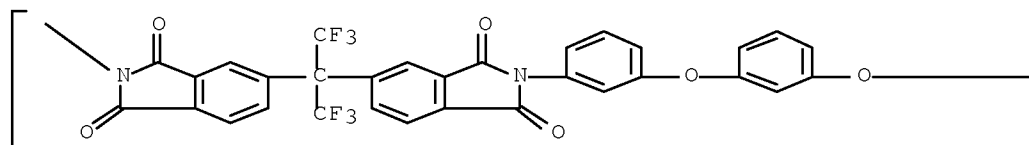
RN 24991-11-5 HCAPLUS

CN Poly[(1,3-dihydro-1,3-dioxo-2H-isoindole-2,5-diyl)carbonyl(1,3-dihydro-1,3-dioxo-2H-isoindole-5,2-diyl)-1,4-phenyleneoxy-1,4-phenylene] (CA INDEX NAME)

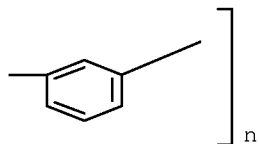


RN 79062-55-8 HCAPLUS

CN Poly[(1,3-dihydro-1,3-dioxo-2H-isoindole-2,5-diyl)[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene](1,3-dihydro-1,3-dioxo-2H-isoindole-5,2-diyl)-1,3-phenyleneoxy-1,3-phenyleneoxy-1,3-phenylene] (CA INDEX NAME)



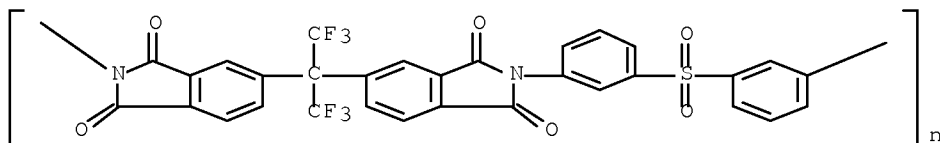
PAGE 1-A



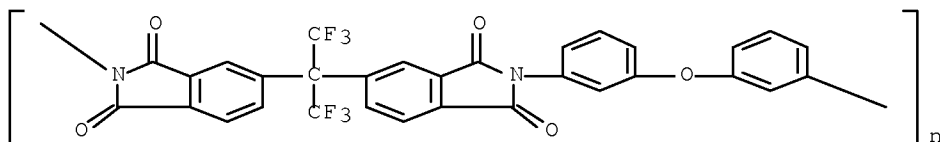
PAGE 1-B



RN 86676-55-3 HCAPLUS  
 CN Poly[(1,3-dihydro-1,3-dioxo-2H-isoindole-2,5-diyl)[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene](1,3-dihydro-1,3-dioxo-2H-isoindole-5,2-diyl)-1,3-phenylenesulfonyl-1,3-phenylene] (CA INDEX NAME)



RN 97969-58-9 HCAPLUS  
 CN Poly[(1,3-dihydro-1,3-dioxo-2H-isoindole-2,5-diyl)[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene](1,3-dihydro-1,3-dioxo-2H-isoindole-5,2-diyl)-1,3-phenyleneoxy-1,3-phenylene] (CA INDEX NAME)



CC 37-5 (Plastics Manufacture and Processing)  
 Section cross-reference(s): 35  
 IT Electric resistance  
 (surface, synthesis and characterization of self-metalizing palladium-doped polyimide films)  
 IT 24980-39-0DP, complexes with palladium 24991-11-5DP, complexes with palladium 79062-55-8DP, 6FDA-1,3-bis(aminophenoxy)benzene copolymer, sru, complexes with palladium 79062-58-1DP, 6FDA-1,3-bis(aminophenoxy)benzene copolymer, complexes with palladium 86676-45-1DP, 6FDA-3,3'-diaminodiphenylsulfone copolymer, complexes with palladium 86676-55-3DP, 6FDA-3,3'-diaminodiphenylsulfone copolymer, sru, complexes with palladium 97969-58-9DP, 6FDA-3,3'-oxydianiline copolymer, sru, complexes with palladium 97969-62-5DP, 6FDA-3,3'-oxydianiline copolymer, complexes with palladium  
 (synthesis and characterization of self-metalizing palladium-doped polyimide films)

L45 ANSWER 31 OF 53 HCAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 1995:772608 HCAPLUS Full-text  
 DOCUMENT NUMBER: 123:170670  
 TITLE: Preparation of polyimides having nonlinear optical properties  
 INVENTOR(S): Jen, Kwan-Yue Alex; Drost, Kevin Joel  
 PATENT ASSIGNEE(S): Enichem S.p.A., Italy  
 SOURCE: Eur. Pat. Appl., 23 pp.

CODEN: EPXXDW

DOCUMENT TYPE:

Patent

LANGUAGE:

English

FAMILY ACC. NUM. COUNT: 5

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 647874	A1	19950412	EP 1994-202858	19941004
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R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, NL, PT, SE				
AU 9474410	A	19950427	AU 1994-74410	19941004
<--				
AU 691513	B2	19980521		
SG 90693	A1	20020820	SG 1995-2215	19941004
<--				
JP 07196795	A	19950801	JP 1994-266084	19941006
<--				
KR 159122	B1	19990115	KR 1994-25493	19941006
<--				
PRIORITY APPLN. INFO.:			US 1993-132707	A 19931006
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ED Entered STN: 02 Sep 1995

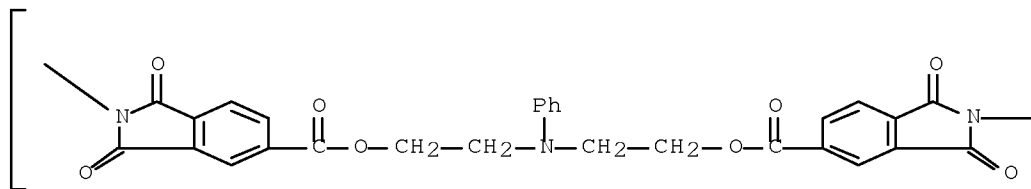
AB The title polyimides are prepared from monomers containing side groups with nonlinear optical properties. Reacting PhN(CH<sub>2</sub>CH<sub>2</sub>OH)<sub>2</sub> with 4-(chloroformyl)phthalic anhydride to give N,N-bis[2-(3,4-dicarboxybenzoyloxy)ethyl]aniline dianhydride, copolymerizing the product with bis(4-aminophenyl) ether, and reacting the Ph side groups of the resulting polyimide with tetracyanoethylene gave a polyimide which contained 4-(tricyanovinyl)phenyl side groups and showed nonlinear optical properties.

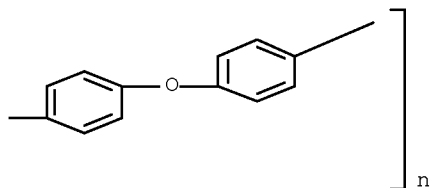
IT 155639-82-0DEF, reaction products with tetracyanoethylene  
 167268-03-3DEF, reaction products with tetracyanoethylene  
 (preparation and nonlinear optical properties of)

RN 155639-82-0 HCAPLUS

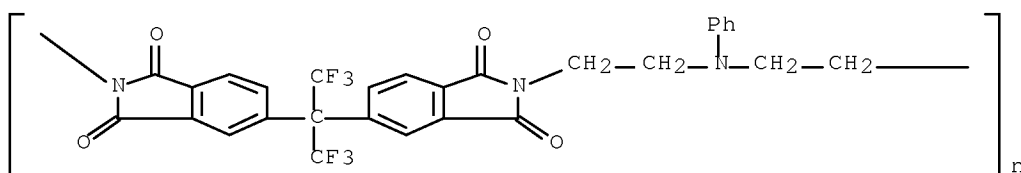
CN Poly[(1,3-dihydro-1,3-dioxo-2H-isoindole-2,5-diyl)carbonyloxy-1,2-ethanediyl(phenylimino)-1,2-ethanediylloxycarbonyl(1,3-dihydro-1,3-dioxo-2H-isoindole-5,2-diyl)-1,4-phenyleneoxy-1,4-phenylene] (9CI)  
 (CA INDEX NAME)

PAGE 1-A





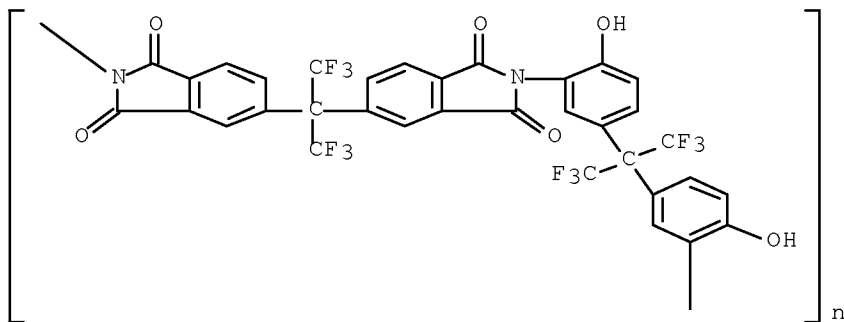
RN 167268-03-3 HCAPLUS  
 CN Poly[(1,3-dihydro-1,3-dioxo-2H-isoindole-2,5-diyl)[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene](1,3-dihydro-1,3-dioxo-2H-isoindole-5,2-diyl)-1,2-ethanediyl(phenylimino)-1,2-ethanediyl] (9CI) (CA INDEX NAME)



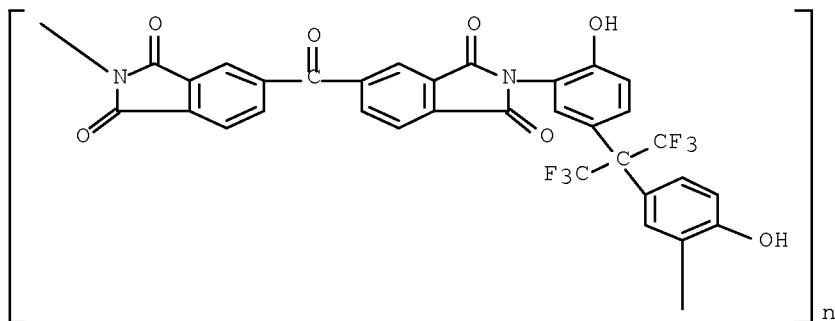
IC ICM G02F001-35  
 ICS C08G073-10  
 CC 35-8 (Chemistry of Synthetic High Polymers)  
 Section cross-reference(s): 37  
 IT Heat-resistant materials  
 (polyimides with nonlinear optical properties)  
 IT 670-54-2DP, Ethenetetra carbonitrile, reaction products with Ph group-containing polyimides 155639-81-9DP, reaction products with tetracyanoethylene 155639-82-0DP, reaction products with tetracyanoethylene 167268-02-2DP, reaction products with tetracyanoethylene 167268-03-3DP, reaction products with tetracyanoethylene  
 (preparation and nonlinear optical properties of)

L45 ANSWER 32 OF 53 HCAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 1995:766444 HCAPLUS Full-text  
 DOCUMENT NUMBER: 123:325600  
 TITLE: Synthesis and photochemical properties of a BTDA-type photosensitive polyimide containing epoxy groups  
 AUTHOR(S): Yu, Han Sung; Yamashita, Takashi; Horie, Kazuyuki  
 CORPORATE SOURCE: Fac. Eng., Univ. Tokyo, Tokyo, 113, Japan  
 SOURCE: Journal of Photopolymer Science and Technology (1995), 8(2), 269-76  
 CODEN: JSTEEW; ISSN: 0914-9244  
 PUBLISHER: Technical Association of Photopolymers, Japan  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 ED Entered STN: 30 Aug 1995

- AB A new polyimide, PI(BTDA/ep-AHHFP) containing epoxy groups was synthesized by the reaction of epichlorohydrin with polyimide prepared from benzophenonetetracarboxylic anhydride and 2,2-bis(3-amino-4-hydroxyphenyl)hexafluoropropane [PI(BTDA/AHHFP)] in the presence of benzyl trimethylammonium chloride at 110-120°C. This polyimide having epoxy group is highly soluble in most common solvents. Photochem. reactivity of epoxy groups in PI(BTDA/ep-AHHFP) was examined by IR spectra in the presence of diphenyliodonium hexafluoroarsenate. The effects of the concentration of photoacid generator were also studied.
- IT 121334-09-6DP, reaction product with epichlorohydrin  
121334-11-0DP, reaction product with epichlorohydrin  
(synthesis and photochem. and lithog. properties of photoresists based on BTDA-type polyimide containing epoxy groups)
- RN 121334-09-6 HCAPLUS
- CN Poly[(1,3-dihydro-1,3-dioxo-2H-isoindole-2,5-diyl)[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene](1,3-dihydro-1,3-dioxo-2H-isoindole-5,2-diyl)(6-hydroxy-1,3-phenylene)[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene](4-hydroxy-1,3-phenylene)] (CA INDEX NAME)



- RN 121334-11-0 HCAPLUS
- CN Poly[(1,3-dihydro-1,3-dioxo-2H-isoindole-2,5-diyl)carbonyl(1,3-dihydro-1,3-dioxo-2H-isoindole-5,2-diyl)(6-hydroxy-1,3-phenylene)[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene](4-hydroxy-1,3-phenylene)] (CA INDEX NAME)

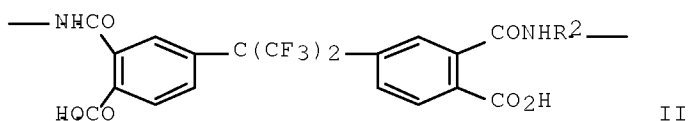
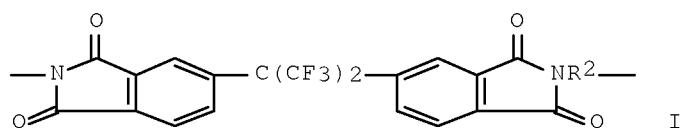


- CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
- ST photosensitive polyimide epoxy group lithog photoresist; benzophenonetetracarboxylic anhydride polyimide epichlorohydrin lithog photoresist; photochem benzophenonetetracarboxylic anhydride polyimide epichlorohydrin modified
- IT Polyimides, reactions  
(epoxy-polyketone, fluorine-containing; synthesis and photochem. and lithog. properties of photoresists based on BTDA-type polyimide containing epoxy groups)
- IT 62613-15-4, Diphenyliodonium hexafluoroarsenate  
(photoacid generator; lithog. characteristics of photoresist containing BTDA-type polyimide containing epoxy groups and photoacid generator)
- IT 56-93-9, Benzyltrimethylammonium chloride  
(reaction of epichlorohydrin with polyimides in preparation of lithog. photoresists)
- IT 121333-85-5 121333-87-7 121334-09-6 121334-11-0  
(reaction with epichlorohydrin in preparation of lithog. photoresists)
- IT 106-89-8, Epichlorohydrin, reactions  
(reaction with polyimides in preparation of lithog. photoresists)
- IT 121333-85-5DP, reaction product with epichlorohydrin 121333-87-7DP, reaction product with epichlorohydrin 121334-09-6DP, reaction product with epichlorohydrin 121334-11-0DP, reaction product with epichlorohydrin  
(synthesis and photochem. and lithog. properties of photoresists based on BTDA-type polyimide containing epoxy groups)

L45 ANSWER 33 OF 53 HCAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 1995:383091 HCAPLUS Full-text  
 DOCUMENT NUMBER: 122:226836  
 TITLE: Photosensitive resin compositions providing high quality polyimide relief pattern  
 INVENTOR(S): Kato, Koichi; Maeda, Suketoshi; Kunimune, Koichi  
 PATENT ASSIGNEE(S): Chisso Corp, Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 12 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	-----
JP 06308728	A	19941104	JP 1993-95934	19930422
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PRIORITY APPLN. INFO.:			JP 1993-95934	19930422
			<--	

ED Entered STN: 02 Mar 1995  
 GI



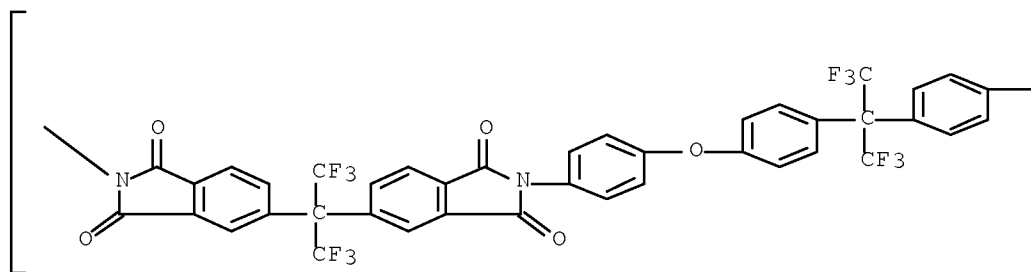
AB The resin compns. contain 100 parts polyimide precursor from I and II and 0.5-50 parts o-quinonediazide compound. A photosensitive composition containing 20.0 g polyimide precursor prepared by treatment of 2,2-bis[4-(4-aminophenoxy)phenyl]hexafluoropropane-2,2-bis(3,4-dicarboxyphenyl)hexafluoropropane copolymer (polyamic acid) with DCC and 2.0 g 2,3,4-trihydroxybenzophenone tri(1,2-naphthoquinonediazido-5-sulfonate) showed good storage stability and gave a high-quality pos. polyimide relief pattern with high photosensitivity.

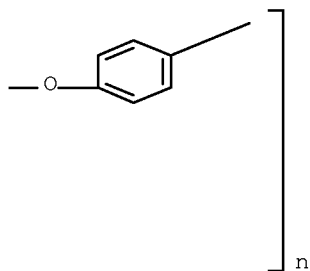
IT 87186-94-5D, partially dehydrated  
(pos.-working photoresists containing fluorinated polyimide precursors and quinonediazides)

RN 87186-94-5 HCAPLUS

CN Poly[(1,3-dihydro-1,3-dioxo-2H-isoindole-2,5-diyl)[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene](1,3-dihydro-1,3-dioxo-2H-isoindole-5,2-diyl)-1,4-phenyleneoxy-1,4-phenylene[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]-1,4-phenyleneoxy-1,4-phenylene] (CA INDEX NAME)

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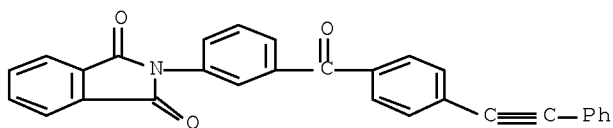




IC ICM G03F007-027  
 ICS C08K005-23; C08L079-08; G03F007-004; G03F007-022; G03F007-039;  
 H01L021-027; H01L021-312  
 CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other  
 Reprographic Processes)  
 IT Resists  
 (photo-, pos.-working photoresists  
 containing fluorinated polyimide precursors and quinonediazides)  
 IT 5610-94-6 32240-73-6, 2,2-Bis(3,4-dicarboxyphenyl)hexafluoropropane  
 dianhydride-4,4'-diaminodiphenyl ether copolymer 39940-16-4  
 64428-14-4D, partially dehydrated 86676-45-1 86676-55-3  
 87182-96-5D, partially dehydrated 87183-01-5 ~~87186-94-5D~~,  
 partially dehydrated 87186-96-7 101359-51-7D, partially dehydrated  
 101359-56-2D, partially dehydrated 137801-52-6D, partially  
 dehydrated 161865-37-8 161865-38-9 162121-71-3D, partially  
 dehydrated  
 (pos.-working photoresists containing fluorinated polyimide precursors  
 and quinonediazides)

L45 ANSWER 34 OF 53 HCAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 1995:254476 HCAPLUS Full-text  
 DOCUMENT NUMBER: 122:57234  
 TITLE: Phenylethynyl-terminated imide oligomers and  
 polymers therefrom  
 AUTHOR(S): Hergenrother, P. M.; Bryant, R. G.; Jensen, B. J.;  
 Havens, S. J.  
 CORPORATE SOURCE: NASA Langley Research Center, Hampton, VA,  
 23681-0001, USA  
 SOURCE: Journal of Polymer Science, Part A: Polymer  
 Chemistry (1994), 32(16), 3061-7  
 CODEN: JPACEC; ISSN: 0887-624X  
 PUBLISHER: Wiley  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 ED Entered STN: 20 Dec 1994  
 AB Two new phenylethynyl endcapping compds., 3- and 4-amino-4'-  
 phenylethynylbenzophenone, were synthesized and used to terminate imide  
 oligomers from 3,4'-oxydianiline (I) and 4,4'-oxydiphthalic anhydride at a  
 calculated mol. weight of 9000 and from I (0.85 mol), 1,3-bis(3-  
 aminophenoxy)benzene (0.15 mol), and 3,3',4,4'- biphenyltetracarboxylic  
 dianhydride at a calculated mol. weight of 5000 g/mol. Glass-transition  
 temps. for the cured oligomers were .apprx. 249° for the former and .apprx.  
 272° for the latter. Films cured at 350° for 1 h were tough and flexible and  
 provided high tensile properties. The uncured oligomers were readily  
 compression molded to provide tough, solvent-resistant moldings.

IT 160070-05-3DP, reaction products with polyimides  
(preparation and mech. and thermal properties of polyimides from  
phenylethynyl-terminated imide oligomers)  
RN 160070-05-3 HCAPLUS  
CN 1H-Isoindole-1,3(2H)-dione, 2-[3-[4-(phenylethynyl)benzoyl]phenyl]-  
(9CI) (CA INDEX NAME)



CC 37-3 (Plastics Manufacture and Processing)  
Section cross-reference(s): 35  
IT 64427-92-5DP, 3,4'-Oxydianiline-4,4'-oxydiphthalic anhydride  
copolymer, sru, reaction products with 3-amino-4'-  
phenylethynylbenzophenone 64427-92-5DP, 3,4'-Oxydianiline-4,4'-  
oxydiphthalic anhydride copolymer, sru, reaction products with  
4-amino-4'-phenylethynylbenzophenone 105030-42-0DP, reaction  
products with 3- and 4-amino-4'-phenylethynylbenzophenone  
105030-42-0P 160070-05-3DP, reaction products with  
polyimides 160070-07-5DP, reaction products with 3- and  
4-amino-4'-phenylethynylbenzophenone 160070-07-5P  
(preparation and mech. and thermal properties of polyimides from  
phenylethynyl-terminated imide oligomers)

L45 ANSWER 35 OF 53 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1994:90539 HCAPLUS Full-text

DOCUMENT NUMBER: 120:90539

TITLE: Photoreactive fluorinated polyimide protected by  
tetrahydropyranyl (THP) group based on chemical  
amplification: acid generation in polyimide film  
and lithographic properties

AUTHOR(S): Naitoh, Kazuhiko; Ishii, Kazuhisa; Yamaoka,  
Tsuguo; Omote, Toshihiko

CORPORATE SOURCE: Fac. Eng., Chiba Univ., Chiba, 263, Japan

SOURCE: Polymers for Advanced Technologies (1993  
, 4(4), 294-301

CODEN: PADTE5; ISSN: 1042-7147

DOCUMENT TYPE: Journal

LANGUAGE: English

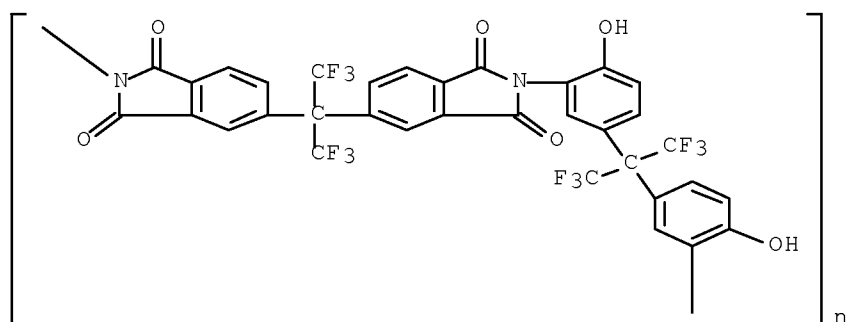
ED Entered STN: 19 Feb 1994

AB The photochem. of photoacid generator (PAG), diphenyliodonium 9,10-  
dimethoxyanthracene-2-sulfonate (DIAS) and diphenyliodonium 8-  
anilinonaphthalene-1-sulfonate (DIANS) was investigated in both alkaline-  
soluble polyimide (6FDA-AHHFP) prepared from  
[trifluoro(trifluoromethyl)ethylidene]bis(isobenzofurandione) and  
bis(aminohydroxyphenyl)hexafluoropropane, and in novolak films. The quantum  
yields of photodissocn. of DIAS and DIANS in both 6FDA-AHHFP and novolak films  
were 0.11, 0.21, 0.12 and 0.26, resp. The quantum yields for acid generation  
from DIAS and DIANS in both of these films were 0.07, 0.18, 0.09 and 0.22,  
resp. The values of the quantum yields of photodissocn. and photoacid  
formation for DIAS and DIANS in 6FDA-AHHFP film are lower than those in  
novolak films. Fluorescence quenchings of sodium 9,10-dimethoxyanthracene-2-  
sulfonate and ammonium 8-anilinonaphthalene-1-sulfonate by a model compound



of polyimide was carried out in acetonitrile. The fluorescences of these two salts were efficiently quenched by the model compound with the diffusion-controlled rate constant in acetonitrile, suggesting that a strong electron-accepting capability of the imide carbonyl group may hinder the electron transfer process within PAC mols. in 6FDA-AHHFP film. Although a polyimide (6F-THP) protected by tetrahydropyranyl group is insol. in aqueous base, 6F-THP film containing PAG became soluble in a 2:1 mixture of 2.0 weight% tetramethylammonium hydroxide (TMAH) and methanol by exposure to 365 nm light and successive post-exposure baking (PEB) at 120° for 10 min. The sensitivity and contrast 6F-THP with DIANS after the PEB conditions above were 110 mJ/cm<sup>2</sup> and 3.7, resp. A high-resolution pattern with a good profile was transferred into the 3 μm thickness of the 6F-THP film.

- IT 121334-09-6D, reaction products with 3,4-dihydro-2H-pyran  
(lithog. performance of photoresist system containing  
anilinonaphthalenesulfonate and)
- RN 121334-09-6 HCAPLUS
- CN Poly[(1,3-dihydro-1,3-dioxo-2H-isoindole-2,5-diyl)[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene](1,3-dihydro-1,3-dioxo-2H-isoindole-5,2-diyl)(6-hydroxy-1,3-phenylene)[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene](4-hydroxy-1,3-phenylene)] (CA INDEX NAME)



- CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
Section cross-reference(s): 76
- ST lithog acid generation pyranyl protected polyimide;  
photoreactive fluorinated polyimide acid generation; photochem  
photoacid generator novolak polyimide photoresist;  
diphenyliodonium dimethoxyanthracenesulfonate  
anilinonaphthalenesulfonate photolysis novolak polyimide
- IT Photolysis  
(of diphenyliodonium dimethoxyanthracenesulfonate and  
diphenyliodonium anilinonaphthalenesulfonate in polyimide and  
novolak films, photoresists in relation to)
- IT Phenolic resins, reactions  
(novolak, photolysis of iodonium salt photoacid  
generators and)
- IT 110-87-2D, reaction products with polymer 6FDA-AHHFP 121333-85-5D,  
reaction products with 3,4-dihydro-2H-pyran 121334-09-6D,  
reaction products with 3,4-dihydro-2H-pyran  
(lithog. performance of photoresist system containing  
anilinonaphthalenesulfonate and)
- IT 137308-86-2, Diphenyliodonium 9,10-dimethoxyanthracene-2-sulfonate

146793-37-5, Diphenyliodonium 8-anilinonaphthalene-1-sulfonate  
(photochem. of photoacid generator of, in polyimide and  
novolak films)

L45 ANSWER 36 OF 53 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1994:10048 HCAPLUS Full-text

DOCUMENT NUMBER: 120:10048

TITLE: Poly(vinyl butyral) blend adhesive compositions  
for flexible printed circuit boards

INVENTOR(S): Inoe, Hiroshi; Takabayashi, Seiichiro; Muramatsu,  
Tadao; Funakoshi, Tsutomu

PATENT ASSIGNEE(S): Ube Industries, Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 05125345	A	19930521	JP 1991-350584	19911108

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PRIORITY APPLN. INFO.:	JP 1991-350584	19911108
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ED Entered STN: 08 Jan 1994

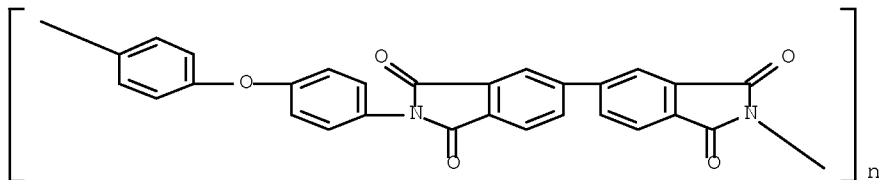
AB The title compns. with good flexibility and heat resistance contain (A) 100 parts poly(vinyl butyral) (I), (B) 30-150 parts alc.-soluble melamine resins, (C) 5-80 parts terminally modified imido siloxane oligomers having softening temperature  $\leq 300^\circ$  and prepared by treating aromatic tetracarboxylic acid components mainly comprising 2,3,3',4'-biphenyltetracarboxylic acids, diamine components mainly comprising diamino polysiloxanes, and monoamines or unsatd. dicarboxylic acids or terminal-modified imide oligomers similarly prepared using aromatic diamines instead of the diamino polysiloxanes, (D) 50-150 parts epoxy-modified polysiloxanes, and (E) epoxy hardeners. Thus, 2,3,3',4'-biephnyltetracarboxylic dianhydride 0.03,  $\text{H}_2\text{N}(\text{CH}_2)_3(\text{SiMe}_2\text{O})_9\text{SiMe}_2(\text{CH}_2)_3\text{NH}_2$  0.06, and maleic anhydride 0.07 mol were stirred to obtain maleic anhydride-terminated imido siloxane oligomer, 15 parts of which was blended with I (Denka 6000C) 30, Nikalac MS 001 20, KF 105 (epoxy-modified polysiloxane) 35, Phenol Novolak H-1 (phenol novolak hardener) 23, 2E4MZ (2-ethyl-4-methylimidazole) 0.01, and MeOH/MEK 200 parts to give an adhesive composition showing homogeneity for 1 wk at room temperature, which was applied to a polyimide film and bonded to a Cu foil to give a laminate showing adhesion strength 1.60 (25°) and 0.50 kg/cm (180°).

IT 26615-45-2D, reaction products with p-aminophenol

(crosslinking agents, for epoxy resins, adhesives containing)

RN 26615-45-2 HCAPLUS

CN Poly[(1,1',3,3'-tetrahydro-1,1',3,3'-tetraoxo[5,5'-bi-2H-isoindole]-2,2'-diyl)-1,4-phenyleneoxy-1,4-phenylene] (CA INDEX NAME)



IC ICM C09J163-00  
 ICS C08L063-00; C09J129-14; C09J161-30; C09J163-00; C09J179-08;  
 C09J183-04

CC 38-3 (Plastics Fabrication and Uses)  
 Section cross-reference(s): 76

IT Phenolic resins, uses  
 (novolak, crosslinking agents, for epoxy resins,  
 adhesives containing)

IT 123-30-8D, p-Aminophenol, reaction products with 3,3',4,4'-  
 biphenoltetracarboxylic dianhydride-4,4'-biphenyl ether copolymer  
 9003-35-4, H 1 (Phenolic resin) 26298-81-7D, reaction products with  
 p-aminophenol 26615-45-2D, reaction products with  
 p-aminophenol  
 (crosslinking agents, for epoxy resins, adhesives containing)

L45 ANSWER 37 OF 53 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1993:604617 HCAPLUS Full-text

DOCUMENT NUMBER: 119:204617

TITLE: Epoxy resin compositions and semiconductor devices  
 using the same

INVENTOR(S): Shiobara, Toshio; Tomiyoshi, Kazutoshi; Kato,  
 Hideto

PATENT ASSIGNEE(S): Shin-Etsu Chemical Industry Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 16 pp.  
 CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

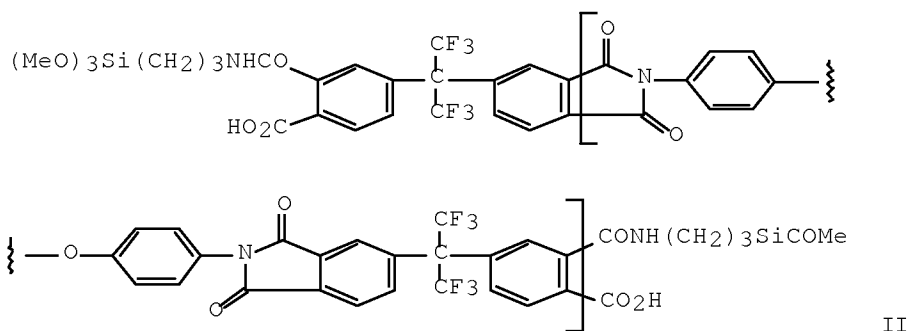
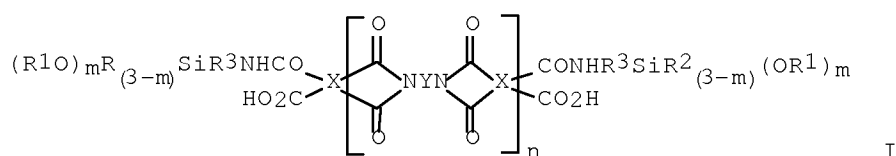
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 04359921	A	19921214	JP 1991-163788	19910607
			<--	
JP 2500548	B2	19960529		
PRIORITY APPLN. INFO.:			JP 1991-163788	19910607
			<--	

ED Entered STN: 13 Nov 1993

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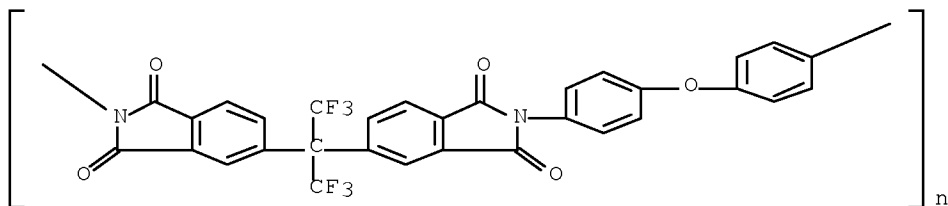


AB Epoxy resin compns. showing good adhesion to Si chips, lead frames, etc. and giving moisture-resistant cured products contain hardeners and imide compds. I [R1, R2 = (un)substituted C1-10 hydrocarbyl; R3, Y = divalent organic group; X = aromatic ring-containing tetravalent organic group; m = 1-3; n ≥ 1]. A composition comprised EOCN 4400H (o-cresol novolak epoxy resin) 56.7, BREN-S 8, TD 2131 (phenolic novolak) 33.3, II 2, 20:80 molten blend of 1,8-diazabicyclo[5.4.0]undecene-7 and TD 2131 0.6, Ph3P 0.5, fused silica (sp. surface area 1.4 m<sup>2</sup>/g, average diameter 30 μ) 250, fused silica (sp. surface area 2.5 m<sup>2</sup>/g, average diameter 10 μ) 70, Sb2O3 8, carbon black 1.5, carnauba wax 1, and 3-glycidoxypropyltrimethoxysilan e 3 parts.

IT 39940-16-4D, trimethoxysilyl group-terminated  
(epoxy potting comps. containing polyimides and, with good adhesion  
and moisture resistance, for semiconductor devices)

RN 39940-16-4 HCAPLUS

CN Poly[(1,3-dihydro-1,3-dioxo-2H-isoindole-2,5-diyl)[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene](1,3-dihydro-1,3-dioxo-2H-isoindole-5,2-diyl)-1,4-phenyleneoxy-1,4-phenylene] (CA INDEX NAME)



IC ICM C08G059-40

ICS C08G059-40; H01L023-29; H01L023-31

CC 37-6 (Plastics Manufacture and Processing)

IT 32240-73-6D, trimethoxysilyl group-terminated 39940-16-4D,  
trimethoxysilyl group-terminated 93196-92-0, TD 2131 110634-63-4  
(epoxy potting compns. containing polyimides and, with good adhesion  
and moisture resistance, for semiconductor devices)

L45 ANSWER 38 OF 53 HCAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 1993:104149 HCAPLUS Full-text  
 DOCUMENT NUMBER: 118:104149  
 TITLE: Biphenyl-type epoxy resins in heat-resistant  
 potting compositions  
 INVENTOR(S): Ota, Masaru; Saeki, Yukio  
 PATENT ASSIGNEE(S): Sumitomo Bakelite Co., Ltd., Japan; Sumitomo Durez  
 Co., Ltd.  
 SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 04153213	A	19920526	JP 1990-275430	19901016
			<--	
JP 2938174	B2	19990823		
PRIORITY APPLN. INFO.:			JP 1990-275430	19901016
			<--	

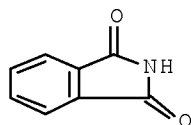
ED Entered STN: 19 Mar 1993

AB The title compns., useful for highly integrated circuits, contain biphenyl-type epoxy resins, phenol novolak hardeners containing 30-100% maleimide-, phthalimide-, or 3,4-naphthalimide group-containing phenolic resin, maleimide derivs., hardening accelerators, and inorg. fillers. A cured potting composition containing 3,3',5,5'-tetramethylbiphenyl- 4,4'-diol diglycidyl ether 90, brominated bisphenol A epoxy resin 10, phthalimido group-containing phenolic resin 90, fused silica 500, and additives 20 parts showed tensile strength and elastic modulus at 250° 2.5 and 60 kg/mm2, resp., and good solder-heat and moisture resistance.

IT 85-41-6D, 1H-Isoindole-1,3(2H)-dione, derivs.  
 (hardeners, for biphenyl epoxy resins in potting compns.)

RN 85-41-6 HCAPLUS

CN 1H-Isoindole-1,3(2H)-dione (CA INDEX NAME)



IC ICM C08G059-24

ICS C08G059-62; H01L023-29; H01L023-31

CC 38-3 (Plastics Fabrication and Uses)

Section cross-reference(s): 37, 76

IT 85-41-6D, 1H-Isoindole-1,3(2H)-dione, derivs. 77818-02-1

146052-80-4 146052-81-5

(hardeners, for biphenyl epoxy resins in potting compns.)

L45 ANSWER 39 OF 53 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1992:614635 HCAPLUS Full-text

DOCUMENT NUMBER: 117:214635

TITLE: Electric insulating varnishes based on phenolic

resins and polyimide-polyesters  
 INVENTOR(S): Kriz, Jaroslav; Prikryl, Petr  
 PATENT ASSIGNEE(S): Czech.  
 SOURCE: Czech., 5 pp.  
 CODEN: CZXXA9  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Czech  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CS 265868	B1	19891114	CS 1987-9198	19871214
			<--	
PRIORITY APPLN. INFO.:			CS 1987-9198	19871214
			<--	

ED Entered STN: 28 Nov 1992

AB Flexible, elec.-insulating coatings resistant to temps.  $\leq 165^\circ$  are manufactured from varnishes containing HCHO-phenol resin (I) or cresol-HCHO resin, Zn, Ti, or Sn compds., aromatic hydrocarbons, alkanols, and products with CO<sub>2</sub>H concentration  $\leq 0.36$  mequiv./g prepared by reaction of 1 mol 6-(3-carboxyphthalimido)hexanoic acid or the crude 1:1 reaction product of trimellitic anhydride (II) and  $\epsilon$ -caprolactam (III) or 6-aminohexanoic acid,  $\leq 1$  mol isophthalic acid, 0.6-0.8 mol C<sub>16</sub>-20 unsatd. fatty acid, 0.16-0.18 mol 1,3,5-tris(2-hydroxyethyl)cyanuric acid (IV), and 1.1-1.3 mol C<sub>2</sub>-5 aliphatic polyols. Thus, heating 26.3 g III 1 h at  $180^\circ$  with 44.6 g II, adding glycerol 20.4, ethylene glycol 3.1, IV 10.5, and sunflower-oil fatty acid 40 g, and heating to  $230^\circ$  at  $0.5^\circ/\text{min}$  and 90 min at  $230^\circ$  gave a product (V) with CO<sub>2</sub>H content 0.232 mequiv/g. V was dissolved in a solution containing xylene 68, BuOH 34, and 47% BuOH solution of I (mol. weight 440, CH<sub>2</sub>OH group content 7.95 mequiv/g) 99.8 g to give a varnish that was baked 15 min at  $200^\circ$  on steel to give a coating with Erichsen value 10.2 mm, hardness F-H, and weight loss 28.2% after 20,000 h at  $180^\circ$ .

IT 144254-97-7DP, sunflower-oil fatty esters  
 144254-99-9DP, soybean-oil fatty esters  
 (manufacture of, for flexible heat-resistant elec.-insulating coatings containing phenolic resins)

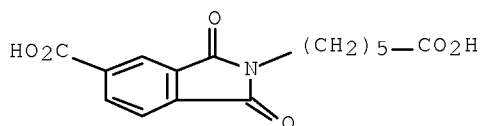
RN 144254-97-7 HCAPLUS

CN 2H-Isoindole-2-hexanoic acid, 5-carboxy-1,3-dihydro-1,3-dioxo-, polymer with 1,2-ethanediol, 1,2,3-propanetriol and 1,3,5-tris(2-hydroxyethyl)-1,3,5-triazine-2,4,6(1H,3H,5H)-trione (9CI)  
 (CA INDEX NAME)

CM 1

CRN 29378-16-3

CMF C15 H15 N O6

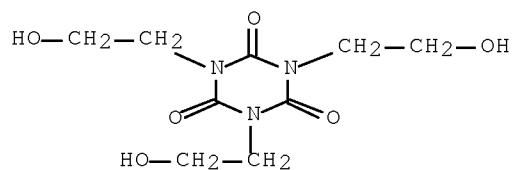


10/531,629

CM 2

CRN 839-90-7

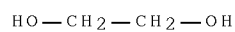
CMF C9 H15 N3 O6



CM 3

CRN 107-21-1

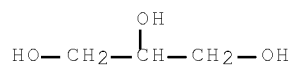
CMF C2 H6 O2



CM 4

CRN 56-81-5

CMF C3 H8 O3



RN 144254-99-9 HCAPLUS

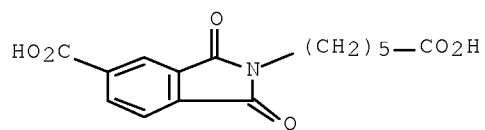
CN 2H-Isoindole-2-hexanoic acid, 5-carboxy-1,3-dihydro-1,3-dioxo-, polymer with 2,2-bis(hydroxymethyl)-1,3-propanediol, 2,2'-oxybis[ethanol], 1,2,3-propanetriol and 1,3,5-tris(2-hydroxyethyl)-1,3,5-triazine-2,4,6(1H,3H,5H)-trione (9CI) (CA INDEX NAME)

CM 1

CRN 29378-16-3

CMF C15 H15 N O6

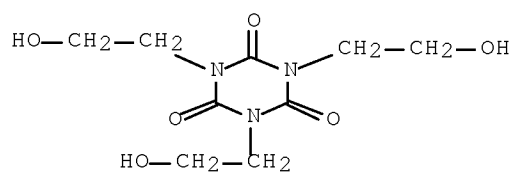
10/531,629



CM 2

CRN 839-90-7

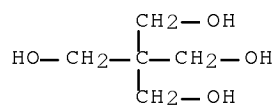
CMF C9 H15 N3 O6



CM 3

CRN 115-77-5

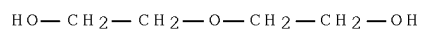
CMF C5 H12 O4



CM 4

CRN 111-46-6

CMF C4 H10 O3

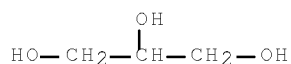


CM 5

CRN 56-81-5

CMF C3 H8 O3



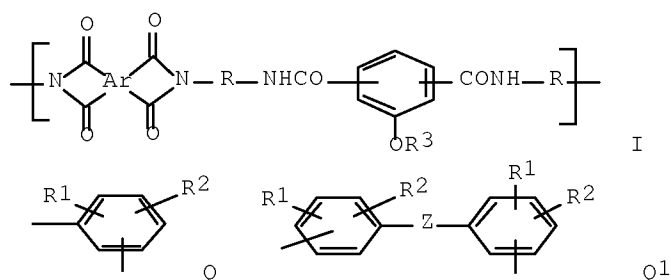


IC ICM C09D005-25  
 CC 42-10 (Coatings, Inks, and Related Products)  
 Section cross-reference(s): 76  
 IT 144254-97-7DP, sunflower-oil fatty esters  
 144254-99-9DP, soybean-oil fatty esters 144255-01-6DP,  
 sunflower-oil fatty esters  
 (manufacture of, for flexible heat-resistant elec.-insulating coatings  
 containing phenolic resins)

L45 ANSWER 40 OF 53 HCAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 1992:175010 HCAPLUS Full-text  
 DOCUMENT NUMBER: 116:175010  
 ORIGINAL REFERENCE NO.: 116:29649a,29652a  
 TITLE: Positive-working photosensitive polyamideimides  
 INVENTOR(S): Kiyohara, Tadashi; Hashimoto, Takeshi  
 PATENT ASSIGNEE(S): Tomoegawa Paper Co., Ltd., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 03273029	A	19911204	JP 1990-72142	19900323
			<--	
JP 2614526	B2	19970528		
PRIORITY APPLN. INFO.:			JP 1990-72142	19900323
			<--	

ED Entered STN: 03 May 1992  
 GI



AB Title polymers containing repeating unit I (Ar = tetravalent aromatic group; R = C1-12 alkylene; R1, R2 = H, halo, lower alkyl, alkoxy, nitrile, NO<sub>2</sub>, OH; Z = nil, O, S, CO, CH<sub>2</sub>, SO, SO<sub>2</sub>; R3 = naphthoquinonediazidosulfonic acid group), heat-resistant with high photosensitivity, are manufactured by polycondensing

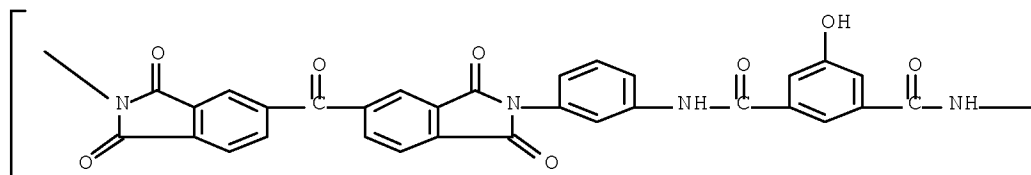
tetracarboxylic acid derivs. and diamines consisting of  $\geq 50$  mol% phenolic OH-containing diamines and treating the resulting aromatic polyamideimides with naphthoquinone diazide derivs. Thus, N,N'-bis(3-aminophenyl)-5-hydroxyisophthalamide-pyromellitic anhydride copolymer (polyamideimide) was treated with naphthoquinone-1,2-diazido-5-sulfonyl chloride in dimethylacetamide in the presence of Et<sub>3</sub>N at 40° to give title polymer with intrinsic viscosity 0.38 dL/g. The polymer was dissolved in N-methyl-2-pyrrolidone, applied to a glass substrate by spin coating, dried, exposed to UV through a test mask, and developed with monoethanolamine to give a relief pattern with good heat resistance.

IT 131820-25-2DP, reaction products with naphthoquinone-1,2-diazido-5-sulfonyl chloride 131820-39-8DP, reaction products with naphthoquinone-1,2-diazido-5-sulfonyl chloride  
(preparation of, photosensitive, for pos.-working photoresists, with good heat resistance)

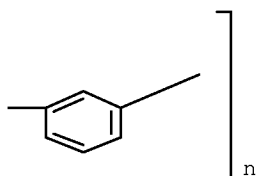
RN 131820-25-2 HCAPLUS

CN Poly[(1,3-dihydro-1,3-dioxo-2H-isoindole-2,5-diyl)carbonyl(1,3-dihydro-1,3-dioxo-2H-isoindole-5,2-diyl)-1,3-phenyleneiminocarbonyl(5-hydroxy-1,3-phenylene)carbonylimino-1,3-phenylene] (9CI) (CA INDEX NAME)

PAGE 1-A

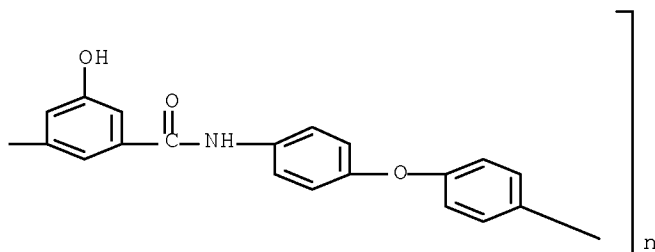
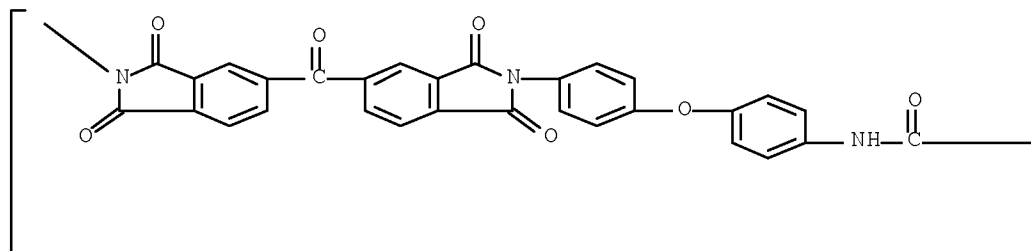


PAGE 1-B



RN 131820-39-8 HCAPLUS

CN Poly[(1,3-dihydro-1,3-dioxo-2H-isoindole-2,5-diyl)carbonyl(1,3-dihydro-1,3-dioxo-2H-isoindole-5,2-diyl)-1,4-phenyleneoxy-1,4-phenyleneiminocarbonyl(5-hydroxy-1,3-phenylene)carbonylimino-1,4-phenyleneoxy-1,4-phenylene] (9CI) (CA INDEX NAME)



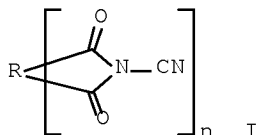
IC ICM C08G073-14  
ICS G03F007-023  
CC 35-7 (Chemistry of Synthetic High Polymers)  
Section cross-reference(s): 74  
IT Resists  
(photo-, pos.-working,  
heat-resistant, polyamideimides containing  
naphthoquinonediazidosulfonyl group for)  
IT 131820-25-2DP, reaction products with naphthoquinone-1,2-  
diazido-5-sulfonyl chloride 131820-27-4DP, reaction products with  
naphthoquinone-1,2-diazido-5-sulfonyl chloride 131820-39-8DP  
, reaction products with naphthoquinone-1,2-diazido-5-sulfonyl  
chloride 131854-24-5DP, reaction products with naphthoquinone-1,2-  
diazido-5-sulfonyl chloride 131854-27-8DP, reaction products with  
naphthoquinone-1,2-diazido-5-sulfonyl chloride 131854-38-1DP,  
reaction products with naphthoquinone-1,2-diazido-5-sulfonyl chloride  
140219-01-8DP, reaction products with naphthoquinone-1,2-diazido-5-  
sulfonyl chloride  
(preparation of, photosensitive, for pos.-working photoresists, with  
good heat resistance)

L45 ANSWER 41 OF 53 HCAPLUS COPYRIGHT 2008 ACS on STN  
ACCESSION NUMBER: 1992:106990 HCAPLUS Full-text  
DOCUMENT NUMBER: 116:106990  
ORIGINAL REFERENCE NO.: 116:18143a,18146a  
TITLE: N-cyanoimides, process for their preparation, and  
use thereof  
INVENTOR(S): Stephens, Randall; Domier, Linda A.

PATENT ASSIGNEE(S): Henkel Research Corp., USA  
 SOURCE: PCT Int. Appl., 91 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9101307	A2	19910207	WO 1990-US4135	19900724
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WO 9101307	A3	19910404		
RW: AT, BE, CH, DE, DK, ES, FR, GB, IT, LU, NL, SE				
US 5216173	A	19930601	US 1990-558028	19900723
			<--	
EP 484381	A1	19920513	EP 1990-911077	19900724
			<--	
R: AT, BE, CH, DE, DK, ES, FR, GB, IT, LI, LU, NL, SE				
PRIORITY APPLN. INFO.:			US 1989-385135	A 19890725
			<--	
			US 1990-558028	A 19900723
			<--	
			WO 1990-US4135	W 19900724
			<--	

OTHER SOURCE(S): MARPAT 116:106990  
 ED Entered STN: 20 Mar 1992  
 GI

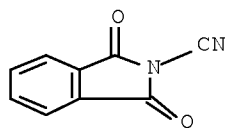


AB The title imides I (R = polyvalent aliphatic, substituted aliphatic, aromatic, or substituted aromatic radical;  $n \geq 2$ ) are prepared by reaction of imides with cyanogen halides in the presence of bases. The title imides are useful as monomers (acting as anhydride equivalents) polymerizable with diamines at low temperature to polyimides with formation of cyanoamide as a non-volatile, solid reaction byproduct. The title imides are also useful as crosslinking agents for epoxy resins. To a cooled solution of phthalimide 1.47, cyanogen bromide 1.27 g, and 10.0 mL acetone was added dropwise over a 2 min period 1.8 mL Et3N and after 15 min the mixture was separated and partitioned between H2O and EtOAc; the organic phase giving the corresponding imide (m.p. 189-191°).

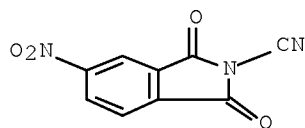
IT 63571-77-7DP, polymers with MY 0510 and acrylic rubber  
 63571-78-8DP, reaction products with epoxy resin  
 135205-74-2DP, reaction products with epoxy resin  
 (preparation of)

RN 63571-77-7 HCAPLUS

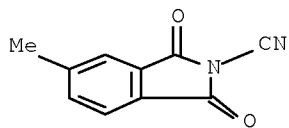
CN 2H-Isoindole-2-carbonitrile, 1,3-dihydro-1,3-dioxo- (CA INDEX NAME)



RN 63571-78-8 HCAPLUS  
 CN 2H-Isoindole-2-carbonitrile, 1,3-dihydro-5-nitro-1,3-dioxo- (CA INDEX NAME)



RN 135205-74-2 HCAPLUS  
 CN 2H-Isoindole-2-carbonitrile, 1,3-dihydro-5-methyl-1,3-dioxo- (CA INDEX NAME)

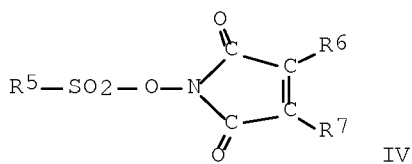
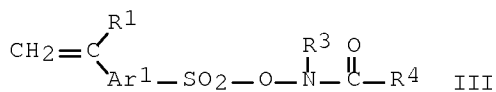
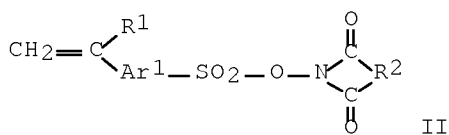
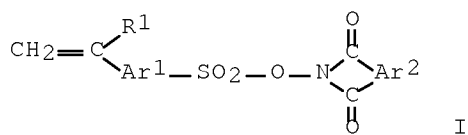


IC ICM C07D209-48  
 ICS C07D487-02; C08G059-44  
 CC 35-2 (Chemistry of Synthetic High Polymers)  
 Section cross-reference(s): 37  
 IT Phenolic resins, uses  
 (epoxy, novolak, crosslinking agents for, cyanoimides as)  
 IT Epoxy resins, uses  
 (phenolic, novolak, crosslinking agents for, cyanoimides as)  
 IT 520-03-6P 1823-59-2P 5026-74-4DP, polymers with cyanophthalimide and acrylic rubber 25068-38-6DP, reaction product with cyanophthalimide 28768-32-3DP, polymers with acrylic rubber and cyanophthalimide 31305-88-1DP, reaction product with N-cyanophthalimide 31305-94-9DP, reaction product with N-cyanophthalimide 32240-73-6P 37348-52-0DP, DEN 431, reaction product with N-cyanophthalimide 39940-16-4P 53055-51-9P 53196-96-6P 63571-77-7DP, polymers with MY 0510 and acrylic rubber 63571-77-7DP, reaction products with epoxy resin 63571-78-8DP, reaction products with epoxy resin 63957-64-2DP, DEN 438, reaction product with N-cyanophthalimide 69572-56-1P 69577-60-2P 115500-91-9P 115501-01-4P 127433-01-6P 127470-24-0P 135020-94-9P 135020-95-0P 135020-96-1P

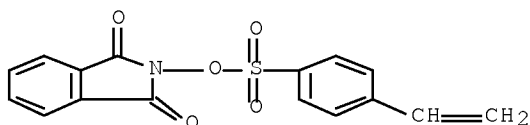
135020-97-2P    135057-99-7P    135089-85-9P    135090-50-5P  
 135124-94-6P    135124-95-7P    135125-06-3P    135125-07-4P  
 135205-46-8P    135205-48-0P    135205-49-1P    135205-50-4P  
 135205-51-5P    135205-52-6P    135205-53-7P    135205-54-8P  
 135205-55-9P    135205-56-0P    135205-57-1P    135205-58-2P  
 135205-59-3P    135205-60-6P    135205-61-7P    135205-62-8P  
 135205-74-2DP, reaction products with epoxy resin  
 135205-75-3DP, reaction products with epoxy resin    135205-76-4P  
 135205-81-1P    135296-77-4P    139252-86-1P    139252-87-2P  
 139252-88-3P    139252-89-4P    139252-90-7P    139290-03-2P  
 (preparation of)

L45 ANSWER 42 OF 53 HCAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 1992:31442 HCAPLUS Full-text  
 DOCUMENT NUMBER: 116:31442  
 ORIGINAL REFERENCE NO.: 116:5229a, 5232a  
 TITLE: Positive working photosensitive composition  
 INVENTOR(S): Aoai, Toshiaki; Nagano, Teruo  
 PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan  
 SOURCE: U.S., 17 pp.  
 CODEN: USXXAM  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

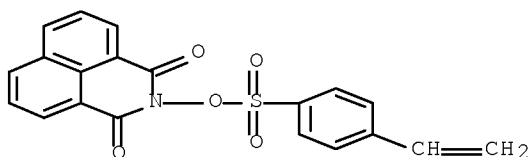
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5002853	A	19910326	US 1989-417496	19891005
			<--	
JP 02100054	A	19900412	JP 1988-253264	19881007
			<--	
JP 2547626	B2	19961023		
EP 363198	A3	19910828	EP 1989-310194	19891005
			<--	
R: DE, GB				
PRIORITY APPLN. INFO.:			JP 1988-253264	A 19881007
			<--	
ED Entered STN: 24 Jan 1992				
GI				



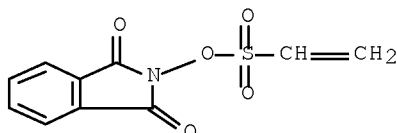
- AB This composition comprises  $\geq 1$  mol% of a structural unit derived from  $\geq 1$  of monomers having the formula; I, II, III, and IV, wherein: R1 = H, an alkyl group, or a substituted alkyl group; R2 = a divalent alkylene group or a substituted divalent alkylene group; R3, R4 and R5 may be the same as or different from each other and each equal to an alkyl group, a substituted alkyl group, an aryl group, or a substituted aryl group; R6 and R7 may be the same as or different from each other and each equal to H, an alkyl group, a substituted alkyl group, an aryl group or a substituted aryl group; Ar1 = a single bond or Ar2, and Ar2 = a divalent arylene group or a substituted divalent arylene group.
- IT 137961-76-3D, polymers 138046-02-3D, polymers  
 138046-04-5D, polymers 138046-05-6D, polymers  
 138046-06-7D, polymers 138046-07-8D, polymers  
 138046-08-9D, polymers 138046-09-0D, polymers  
 138046-10-3D, polymers 138046-11-4D, polymers  
 138046-12-5D, polymers 138046-16-9D, polymers  
 138046-19-2D, polymers 138046-20-5D, polymers  
 141519-46-2D, polymers  
 (pos.-working photoresist containing)
- RN 137961-76-3 HCAPLUS
- CN 1H-Isoindole-1,3(2H)-dione, 2-[[[4-ethenylphenyl)sulfonyl]oxy]- (9CI)  
 (CA INDEX NAME)



- RN 138046-02-3 HCAPLUS
- CN 1H-Benz[de]isoquinoline-1,3(2H)-dione, 2-[[[4-ethenylphenyl)sulfonyl]oxy]- (9CI) (CA INDEX NAME)

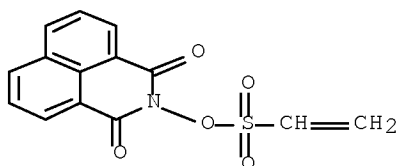


- RN 138046-04-5 HCAPLUS
- CN 1H-Isoindole-1,3(2H)-dione, 2-[(ethenylsulfonyl)oxy]- (9CI) (CA INDEX NAME)



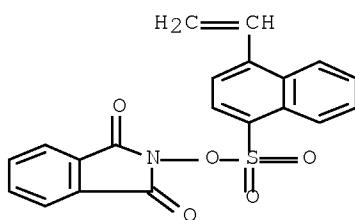
RN 138046-05-6 HCAPLUS

CN 1H-Benz[de]isoquinoline-1,3(2H)-dione, 2-[(ethenylsulfonyl)oxy]- (9CI)  
(CA INDEX NAME)



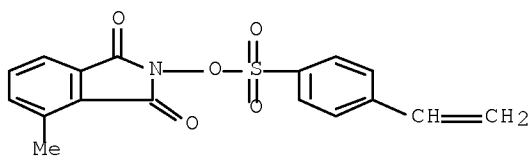
RN 138046-06-7 HCAPLUS

CN 1H-Isoindole-1,3(2H)-dione, 2-[[4-ethenyl-1-naphthalenyl)sulfonyl]oxy]- (9CI) (CA INDEX NAME)



RN 138046-07-8 HCAPLUS

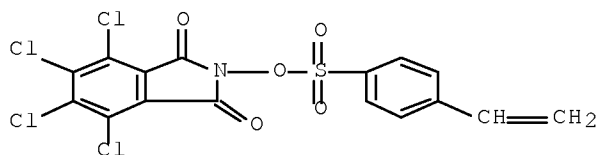
CN 1H-Isoindole-1,3(2H)-dione, 2-[[4-ethenylphenyl)sulfonyl]oxy]-4-methyl- (9CI) (CA INDEX NAME)



RN 138046-08-9 HCAPLUS

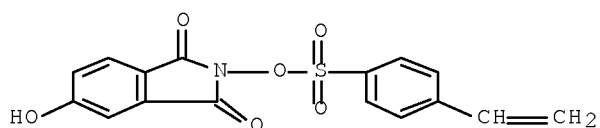
CN 1H-Isoindole-1,3(2H)-dione, 4,5,6,7-tetrachloro-2-[[4-ethenylphenyl)sulfonyl]oxy]- (9CI) (CA INDEX NAME)





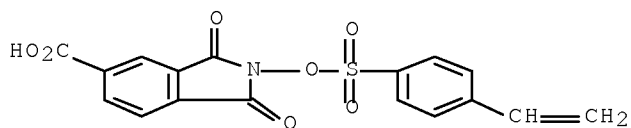
RN 138046-09-0 HCAPLUS

CN 1H-Isoindole-1,3(2H)-dione, 2-[[4-(4-ethenylphenyl)sulfonyl]oxy]-5-hydroxy- (9CI) (CA INDEX NAME)



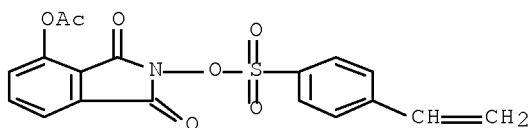
RN 138046-10-3 HCAPLUS

CN 1H-Isoindole-5-carboxylic acid, 2-[[4-(4-ethenylphenyl)sulfonyl]oxy]-2,3-dihydro-1,3-dioxo- (CA INDEX NAME)



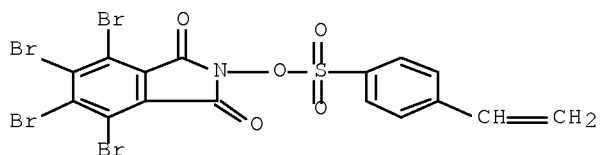
RN 138046-11-4 HCAPLUS

CN 1H-Isoindole-1,3(2H)-dione, 4-(acetyloxy)-2-[[4-(4-ethenylphenyl)sulfonyl]oxy]- (9CI) (CA INDEX NAME)



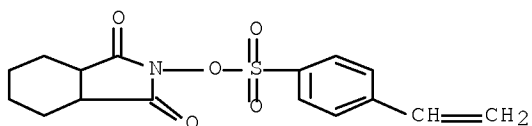
RN 138046-12-5 HCAPLUS

CN 1H-Isoindole-1,3(2H)-dione, 4,5,6,7-tetrabromo-2-[[4-(4-ethenylphenyl)sulfonyl]oxy]- (9CI) (CA INDEX NAME)



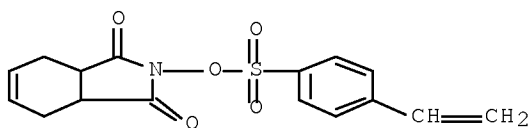
RN 138046-16-9 HCAPLUS

CN 1H-Isoindole-1,3(2H)-dione, 2-[[4-ethenylphenyl)sulfonyl]oxy]hexahydro- (9CI) (CA INDEX NAME)



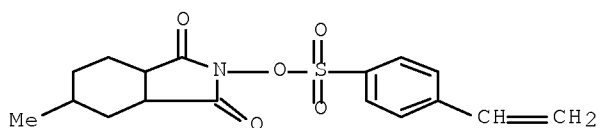
RN 138046-19-2 HCAPLUS

CN 1H-Isoindole-1,3(2H)-dione, 2-[[4-ethenylphenyl)sulfonyl]oxy]-3a,4,7,7a-tetrahydro- (9CI) (CA INDEX NAME)



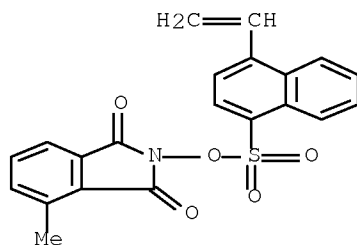
RN 138046-20-5 HCAPLUS

CN 1H-Isoindole-1,3(2H)-dione, 2-[[4-ethenylphenyl)sulfonyl]oxy]hexahydro-5-methyl- (9CI) (CA INDEX NAME)



RN 141519-46-2 HCAPLUS

CN 1H-Isoindole-1,3(2H)-dione, 2-[[4-ethenyl-1-naphthalenyl)sulfonyl]oxy]-4-methyl- (9CI) (CA INDEX NAME)



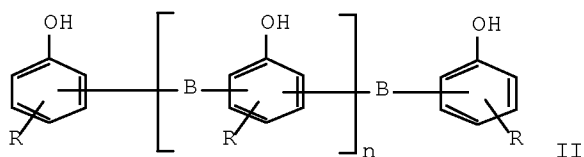
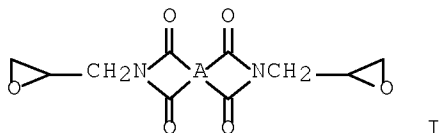
IC ICM G03F007-039  
ICS C08F012-32; C08F128-02  
INCL 430281000  
CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other  
Reprographic Processes)  
Section cross-reference(s): 27, 38  
IT Resists  
(photo-, pos.-working, compns. containing  
sulfonate group-containing polymers as)  
IT 31796-20-0D, polymers 137961-76-3D, polymers 137961-77-4  
137961-78-5D, polymers 137961-79-6 137961-80-9D, polymers  
137961-81-0 137961-83-2 138046-02-3D, polymers  
138046-03-4D, polymers 138046-04-5D, polymers  
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138046-32-9D, polymers 138046-33-0D, polymers 138046-34-1D,  
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138046-37-4D, polymers 138046-38-5D, polymers 138046-39-6D,  
polymers 138046-40-9D, polymers 138046-41-0D, polymers  
138073-73-1D, polymers 141519-46-2D, polymers  
(pos.-working photoresist containing)

L45 ANSWER 43 OF 53 HCAPLUS COPYRIGHT 2008 ACS on STN  
ACCESSION NUMBER: 1991:633872 HCAPLUS Full-text  
DOCUMENT NUMBER: 115:233872  
ORIGINAL REFERENCE NO.: 115:39873a,39876a  
TITLE: Solder- and thermal-shock-resistant epoxy resin  
compositions for sealing semiconductors  
INVENTOR(S): Yanagisawa, Kenichi; Ota, Masaru; Kosaka, Wataru  
PATENT ASSIGNEE(S): Sumitomo Bakelite Co., Ltd., Japan  
SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.  
CODEN: JKXXAF  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

10/531,629

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 03128919	A	19910531	JP 1989-158281	19890622
JP 2703057	B2	19980126	<--	
PRIORITY APPLN. INFO.:			JP 1989-158281	19890622
			<--	

ED Entered STN: 29 Nov 1991  
GI

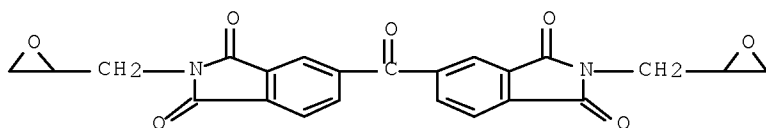


AB Solder- and thermal-shock-resistant compns. for the title use comprise epoxides including 20-100% imide-containing epoxides I (A = tetraivalent aromatic residue, R1-2 = H, C1-5 alkyl), flexible polyphenol hardeners II [B = cyclohexylene, p-CH<sub>2</sub>C<sub>6</sub>H<sub>4</sub>CH<sub>2</sub>, tricyclo[5.2.1.0<sup>2,6</sup>]decanediyl, norboranediyl, cyclopentenediyl; R = H, halo, C1-5 alkyl; n = 0-10], and inorg. fillers. Thus, I (A = 1,2,4,5-C<sub>6</sub>H<sub>2</sub>) 25, brominated phenol novolak epoxy resin 10, tris(hydroxyalkylphenyl)methane-based epoxy resin 65, II (R = H, B = p-CH<sub>2</sub>C<sub>6</sub>H<sub>4</sub>CH<sub>2</sub>, n = 0, 1, 2 mixture) 50, fused SiO<sub>2</sub> 450, Sb<sub>2</sub>O<sub>3</sub> 25, a silane coupler 2, DBU 2, carbon black 3, and carnauba wax 3 parts were roll kneaded, cooled, pulverized, and transfer-molded with 20 model chips to give samples with crack formation 0/20 after 168 h under 85° and 85% relative humidity and 10 s in solder at 260° and 0/20 after 500 thermal cycles from -65° to 150°.

IT 38165-39-8DP, polymers with polyepoxides and polyphenols  
(manufacture of, as heat and thermal-shock-resistant potting compns., for semiconductors)

RN 38165-39-8 HCAPLUS

CN 1H-Isoindole-1,3(2H)-dione, 5,5'-carbonylbis[2-(oxiranylmethyl)- (9CI)  
(CA INDEX NAME)



IC ICM C08G059-22  
ICS C08G059-10; C08G059-62; H01L023-29; H01L023-31

CC 37-6 (Plastics Manufacture and Processing)  
 Section cross-reference(s): 76

IT 23328-66-7DP, polymers with polyepoxides and polyphenols  
 38165-39-8DP, polymers with polyepoxides and polyphenols  
 61990-96-3DP, polymers with diimide-containing diepoxides and polyepoxides and polyphenols 67880-65-3DP, polymers with diimide-containing diepoxides and polyepoxides and polyphenols 80873-30-9DP, polymers with diimide-containing diepoxides and polyepoxides and polyphenols  
 135745-50-5DP, polymers with polyepoxides and polyphenols  
 135975-24-5DP, polymers with polyepoxides and polyphenols  
 137010-49-2DP, polymers with diimide-containing diepoxides and polyepoxides and polyphenols 137010-51-6DP, polymers with diimide-containing diepoxides and polyepoxides and polyphenols  
 137010-58-3DP, polymers with diimide-containing diepoxides and polyepoxides and polyphenols  
 (manufacture of, as heat and thermal-shock-resistant potting compns., for semiconductors)

L45 ANSWER 44 OF 53 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1990:572882 HCAPLUS Full-text  
 DOCUMENT NUMBER: 113:172882  
 ORIGINAL REFERENCE NO.: 113:29337a,29340a  
 TITLE: Fluorine-containing photoreactive polyimide. 6. Synthesis and properties of a novel photoreactive polyimide based on photo-induced acidolysis and the kinetics for its acidolysis  
 AUTHOR(S): Omote, Toshihiko; Koseki, Ken'ichi; Yamaoka, Tsuguo  
 CORPORATE SOURCE: Fac. Eng., Chiba Univ., Chiba, 260, Japan  
 SOURCE: Macromolecules (1990), 23(22), 4788-95  
 CODEN: MAMOBX; ISSN: 0024-9297  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 ED Entered STN: 09 Nov 1990

AB The polyimide (I) prepared from 5,5'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis(1,3-isobenzofurandione) and 2,2-bis(3-amino-4-hydroxyphenyl)hexafluoropropane was soluble in aqueous base due to the presence of OH groups in the Ph rings of the diamine segment. Easy acidolysis of the protecting groups of the OH group was demonstrated with several model compds. that were protected by a number of acyl and alkoxycarbonyl groups. The tert-butoxycarbonyl (t-BOC) group showed the highest acidolysis rate in these tests. I protected with the t-BOC group was insol. in an aqueous base, but was easily converted to an alkaline-soluble polyimide by the acidolysis of the t-BOC group. The t-BOC-protected polyimide showed excellent pos.-working photoreactive characteristics in an aqueous base generator in the presence of (p-nitrobenzyl)-9,10-diethoxyanthracene-2-sulfonate as a photochem. acid generator, because of the polarity change induced by removing the t-BOC group. Studies of the kinetics of thermolytically deprotecting the polyimide indicated that the reaction was first order.

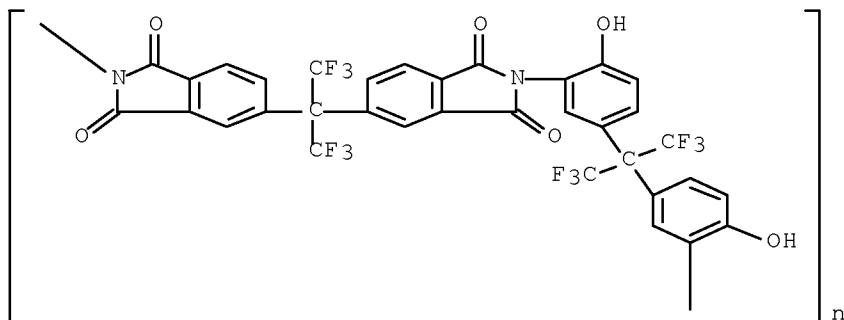
IT 174177-00-5DP, reaction products with di-tert-Bu dicarbonate  
 (preparation and acidolysis of, photoreactive properties in relation to)

RN 174177-00-5 HCAPLUS

CN Poly[(1,3-dihydro-1,3-dioxo-2H-isoindole-2,5-diyl)[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene](1,3-dihydro-1,3-dioxo-2H-isoindole-5,2-diyl)(6-hydroxy-1,3-phenylene)[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene](4-hydroxy-1,3-phenylene)], 1,1-dimethylethyl carbonate (9CI) (CA INDEX NAME)

CM 1

CRN 121334-09-6  
 CMF (C34 H14 F12 N2 O6)n  
 CCI PMS



CM 2

CRN 51300-90-4  
 CMF C5 H10 O3

t-Bu—O—CO<sub>2</sub>H

CC 35-8 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 74

IT Resists

(photo-, pos.-working, hydroxyl

group-containing fluoropolymer-polyimides for, protective group  
 acidolysis in relation to)

IT 129708-72-1DP, reaction products with di-tert-Bu dicarbonate

174062-36-3DP, reaction products with di-tert-Bu dicarbonate

174177-00-5DP, reaction products with di-tert-Bu dicarbonate

(preparation and acidolysis of, photoreactive properties in relation to)

L45 ANSWER 45 OF 53 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1990:441475 HCAPLUS Full-text

DOCUMENT NUMBER: 113:41475

ORIGINAL REFERENCE NO.: 113:7069a, 7072a

TITLE: Fluorine-containing photoreactive polyimide: 4.  
 The dependence of the content of pendant  
 o-naphthoquinone diazide on the mechanism of  
 photochemical reaction in a novel photoreactive  
 polyimide

AUTHOR(S): Omote, Toshihiko; Mochizuki, Hideaki; Koseki,  
 Kenichi; Yamaoka, Tsuguo

CORPORATE SOURCE: Fac. Eng., Chiba Univ., Chiba, 260, Japan

SOURCE: Polymer Communications (1990), 31(4),  
 134-6

CODEN: POCOEF; ISSN: 0263-6476

DOCUMENT TYPE: Journal

LANGUAGE: English

ED Entered STN: 03 Aug 1990

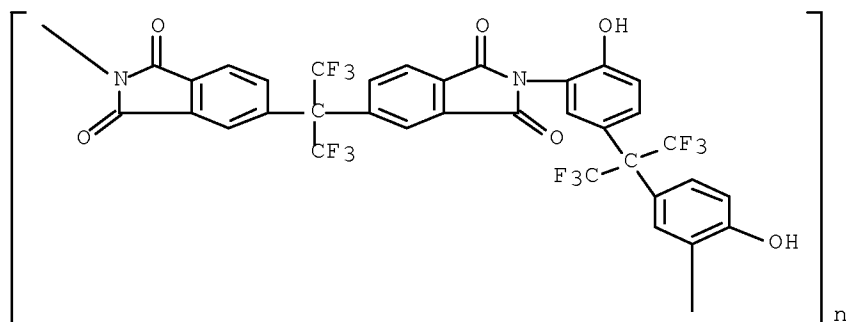
AB Novel photoreactive polyimides carrying o-naphthoquinone diazide (I) groups in the side chain were synthesized. These polyimides showed unique lithog. behavior; they were either pos.-working for aqueous base developer or neg.-working for organic solvent developer depending on the content of I. The reaction leading to the neg. working mode could be due to the low content of absorbed water, as well as the increased content of I in the polymer. The hydrophobicity of the polymer could be due to the presence of the fluorinated structure.

IT 121334-09-6DP, esters with naphthoquinonediazidesulfonyl chloride

(preparation and photoresist activity of)

RN 121334-09-6 HCAPLUS

CN Poly[(1,3-dihydro-1,3-dioxo-2H-isoindole-2,5-diyl)[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene](1,3-dihydro-1,3-dioxo-2H-isoindole-5,2-diyl)(6-hydroxy-1,3-phenylene)[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene](4-hydroxy-1,3-phenylene)] (CA INDEX NAME)



CC 35-8 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 74

IT Resists

(photo-, pos.-working, fluorinated

polyimides containing naphthoquinone azide groups for)

IT 121334-09-6DP, esters with naphthoquinonediazidesulfonyl chloride 128087-29-6P

(preparation and photoresist activity of)

L45 ANSWER 46 OF 53 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1990:128961 HCAPLUS Full-text

DOCUMENT NUMBER: 112:128961

ORIGINAL REFERENCE NO.: 112:21661a,21664a

TITLE: Fluorine-containing photoreactive polyimide. 5:  
A novel positive-type polyimide based on  
photoinduced acidolysis

AUTHOR(S): Omote, Toshihiko; Koseki, Kenichi; Yamaoka, Tsuguo

CORPORATE SOURCE: Fac. Eng., Chiba Univ., Chiba, 260, Japan

SOURCE: Journal of Polymer Science, Part C: Polymer  
Letters (1990), 28(2), 59-64

CODEN: JSCLE2; ISSN: 0887-6258

DOCUMENT TYPE: Journal

LANGUAGE: English

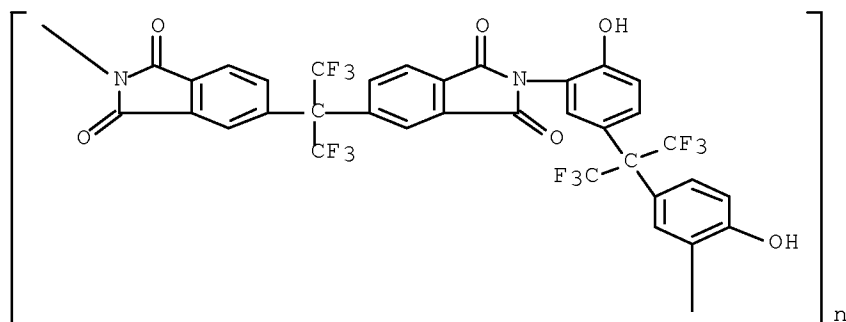
ED Entered STN: 31 Mar 1990

AB The pos.-type photoreactive polyimide with tert-butoxycarbonyl protecting groups which was prepared by the polycondensation of 5,5'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis(1,3-isobenzofurandione) with 2,2-bis(3-amino-4-hydroxyphenyl)hexafluoropropane and reaction with di-tert-Bu dicarbonate showed excellent lithog. performance by being 24% deprotected after photoinduced acidolysis. The acidolytic facility of protecting groups as determined with model compds. corresponding to the polyimide repeat unit were MeCO > Me2CHCO > Me3CCO for the acylated series and Me3COCO > MeOCO > Me2CHOCO > Me2CHCH2OCO for the alkoxy-carbonylated series.

IT 121334-09-6D, tert-butoxycarbonyl-blocked  
(lithog. properties of, hydroxyl group protection in relation to)

RN 121334-09-6 HCAPLUS

CN Poly[(1,3-dihydro-1,3-dioxo-2H-isindole-2,5-diyl)[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene](1,3-dihydro-1,3-dioxo-2H-isindole-5,2-diyl)(6-hydroxy-1,3-phenylene)[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene](4-hydroxy-1,3-phenylene)] (CA INDEX NAME)



CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
Section cross-reference(s): 35

ST protective group polyimide photoinduced acidolysis; lithog  
pos photoresist polyimide photoacidolysis

IT Polyimides, properties  
(lithog. properties of, tert-butoxycarbonyl protective group in relation to)

IT Resists  
(photo-, pos.-working, polyimide with tert-butoxycarbonyl protective groups for)

IT 121333-85-5D, tert-butoxycarbonyl-blocked 121334-09-6D, tert-butoxycarbonyl-blocked  
(lithog. properties of, hydroxyl group protection in relation to)

IT 24424-99-5, Di-tert-butyl dicarbonate  
(polyimides protected by, for pos.-working lithog.)

L45 ANSWER 47 OF 53 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1988:571284 HCAPLUS Full-text

DOCUMENT NUMBER: 109:171284

ORIGINAL REFERENCE NO.: 109:28417a,28420a

TITLE: A study of polybenzimidazole/polyimide and



polybenzimidazole/poly(siloxane imide) segmented copolymer blends

AUTHOR(S): Chen, Y. P.; Chen, D. H.; Arnold, C. A.; Lewis, D. A.; Pollard, J. F.; Graybeal, J. D.; Ward, T. C.; McGrath, J. E.

CORPORATE SOURCE: Dep. Chem., Virginia Polytechnic Inst. State Univ., Blacksburg, VA, 24061, USA

SOURCE: Polymer Preprints (American Chemical Society, Division of Polymer Chemistry) (1988), 29(2), 370-2  
CODEN: ACPPAY; ISSN: 0032-3934

DOCUMENT TYPE: Journal

LANGUAGE: English

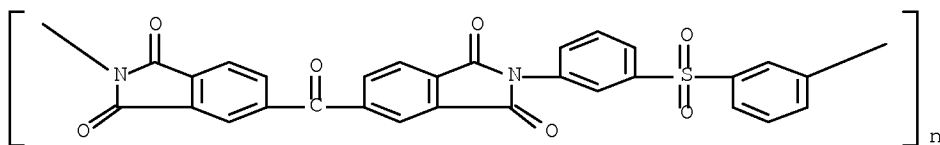
ED Entered STN: 12 Nov 1988

AB The miscibility of the title blends, with the potential for high-temperature applications, over a wide range of compns. was ascertained by having clear, transparent films, and a single dielec. loss tangent peak at the glass temperature. Thermal stabilities of both blends were excellent except for the blend having a high siloxane content. Water absorption was dramatically reduced by incorporation siloxane segments into the blend system due to its migration to the surface and the formation of a water-repellent surface. The results from the permittivity measurements showed a possible route to efficiently process the title blends by microwave heating.

IT 54571-77-6D, 3,3',4,4'-Benzophenonetetracarboxylic dianhydride-3,3'-diaminodiphenylsulfone copolymer, SRU, polymers with di-Me siloxanes, block  
(polybenzimidazole blends, miscibility and thermal and dielec. properties of)

RN 54571-77-6 HCAPLUS

CN Poly[(1,3-dihydro-1,3-dioxo-2H-isoindole-2,5-diyl)carbonyl(1,3-dihydro-1,3-dioxo-2H-isoindole-5,2-diyl)-1,3-phenylenesulfonyl-1,3-phenylene]  
(CA INDEX NAME)



CC 36-5 (Physical Properties of Synthetic High Polymers)

IT Heat-resistant materials  
(polybenzimidazole blends with polyimide or with segmented polyimide-siloxane copolymers, miscibility and thermal and dielec. properties of)

IT 28825-50-5, 3,3',4,4'-Benzophenonetetracarboxylic dianhydride-3,3'-diaminodiphenylsulfone copolymer 28825-50-5D, 3,3',4,4'-Benzophenonetetracarboxylic dianhydride-3,3'-diaminodiphenylsulfone copolymer, polymers with di-Me siloxanes, block 54571-77-6, 3,3',4,4'-Benzophenonetetracarboxylic dianhydride-3,3'-diaminodiphenylsulfone copolymer, SRU 54571-77-6D, 3,3',4,4'-Benzophenonetetracarboxylic dianhydride-3,3'-diaminodiphenylsulfone copolymer, SRU, polymers with di-Me siloxanes, block  
(polybenzimidazole blends, miscibility and thermal and dielec. properties of)

L45 ANSWER 48 OF 53 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1988:206356 HCAPLUS Full-text

DOCUMENT NUMBER: 108:206356

ORIGINAL REFERENCE NO.: 108:33905a,33908a

TITLE: Water-thinned epoxy resin coating compositions

INVENTOR(S): Karzijn, Willem; Kooimans, Petrus Gerardus

PATENT ASSIGNEE(S): Shell Internationale Research Maatschappij B. V.,  
Neth.

SOURCE: Eur. Pat. Appl., 10 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 244898	A2	19871111	EP 1987-200732	19870415
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EP 244898	A3	19901107		
EP 244898	B1	19920715		
R: BE, DE, ES, FR, GB, IT, NL, SE				
CA 1303276	C	19920609	CA 1987-534601	19870414
			<--	
ES 2032810	T3	19930301	ES 1987-200732	19870415
			<--	
JP 62267317	A	19871120	JP 1987-109951	19870507
			<--	
US 4769402	A	19880906	US 1987-48208	19870511
			<--	
PRIORITY APPLN. INFO.:			GB 1986-11328	A 19860509
			<--	

ED Entered STN: 11 Jun 1988

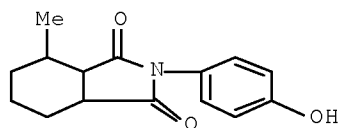
AB Storage-stable compns., giving coatings with good stability under sterilization conditions, comprise epoxy resins in which the epoxide groups have been partially replaced with -CH(OH)CH<sub>2</sub>XZ<sub>1</sub>NHCOZ<sub>2</sub>CO<sub>2</sub>- M+ [M+ = alkali metal or onium ion; X = S, O, NR, SONR (R = H, alkyl); Z<sub>1</sub> = arylene; Z<sub>2</sub> = C<sub>2</sub>-3 organic bridging group]. A solution of 169.8 g p-nonylphenol-modified epoxy novolak resin in BuOCH<sub>2</sub>CH<sub>2</sub>OH (I) 254.7, a solution of 122.7 g Epikote 1001 in I 184.1, N-(4-hydroxyphenyl)succinimide 49.7, bisphenol A 29.7 and I 39.7 g were heated to 120°, mixed with a 0.186-g solution of 0.093 g Me<sub>4</sub>Cl<sup>-</sup> in H<sub>2</sub>O, and reacted at 120-140° for 18 h. A mixture of the resulting adduct 149.93, Me<sub>2</sub>NCH<sub>2</sub>CMe<sub>2</sub>OH 10.22, and H<sub>2</sub>O 116.5 g was refluxed 5 h to give a binder with acid value 39 mg KOH/g and solids content 36%. A coating containing this binder 55.4, Cymel 1116 5.0, and H<sub>2</sub>O 106.3 g was anodically deposited on a Sn-coated can, giving a 15-μ coating with good appearance and stability to sterilization (soaking in 121° H<sub>2</sub>O for 90 min) and pasteurization (soaking in 2% lactic acid-containing H<sub>2</sub>O at 80° for 0.5 h).

IT 114450-96-3D, reaction products with epoxy resins and crosslinking agents

(coatings, storage-stable and sterilizable)

RN 114450-96-3 HCAPLUS

CN 1H-Isoindole-1,3(2H)-dione, hexahydro-2-(4-hydroxyphenyl)-4-methyl-  
(CA INDEX NAME)



IC ICM C08L063-00  
ICS C09D003-58  
ICA C08G059-14; C09D005-44  
CC 42-9 (Coatings, Inks, and Related Products)  
IT 80-05-7D, reaction products with imides and epoxy resins and crosslinking agents 9003-08-1D, Cymel 1116, reaction products with imides and epoxy resins 10187-21-0D, N-(4-Hydroxyphenyl)succinimide, reaction products with epoxy resins and crosslinking agents 25068-38-6D, Epikote 1001, reaction products with imides and crosslinking agents 114355-89-4D, reaction products with imides and crosslinking agents 114450-96-3D, reaction products with epoxy resins and crosslinking agents 114450-97-4D, reaction products with epoxy resins and crosslinking agents (coatings, storage-stable and sterilizable)

L45 ANSWER 49 OF 53 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1987:139330 HCAPLUS Full-text

DOCUMENT NUMBER: 106:139330

ORIGINAL REFERENCE NO.: 106:22747a,22750a

TITLE: Polyester molding composition containing a phthalimide plasticizer

INVENTOR(S): Birum, Gail H.; Mathis, Thomas C.; Stolk, Richard D.

PATENT ASSIGNEE(S): Monsanto Co. , USA

SOURCE: U.S., 6 pp.  
CODEN: USXXAM

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

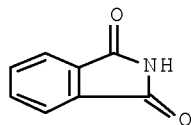
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 4639480	A	19870127	US 1985-736004	19850517
			<--	
PRIORITY APPLN. INFO.:			US 1985-736004	19850517
			<--	

ED Entered STN: 01 May 1987

AB Title composition comprises 40-95 parts PET having intrinsic viscosity ( $\eta_{inh}$ )  $\geq 0.4$  dL/g (0.5% solution in 60:40 PhOH- tetrachloroethane, 25°) and 0.5-15 parts phthalimide (R attached at N of ring, R = C12-30 alkyl, alkenyl or alkoxy alkyl). A molding composition containing poly(ethylene terephthalate) ( $\eta_{inh}$  0.66 dL/g) 67, N n-octadecyl phthalimide (I) 2.0, Suryln 8660 0.67, Araldite ECN 1273 0.33, and glass fiber (chopped) 30.0 parts was extruded at 260° and molded into a test piece having heat distortion temperature 214, Izod impact 12 ft lbs/in., tensile strength 20,100 psi, and elongation 2.4%, vs. 208, 12.3, 19,700, and 2.3, resp., using neopentyl glycol dibenzoate instead of I and 202, 14.2, 18,900, and 2.0, resp., without plasticizer.

IT 85-41-6D, alkyl or alkylene derivs.  
(plasticizer, for polyester moldings)

RN 85-41-6 HCAPLUS  
 CN 1H-Isoindole-1,3(2H)-dione (CA INDEX NAME)



IC ICM C08K005-34  
 INCL 524104000  
 CC 37-6 (Plastics Manufacture and Processing)  
 Section cross-reference(s): 38  
 ST polyethylene terephthalate molding compn; polyester alkylene  
 terephthalate molding; phthalimide plasticizer polyester molding;  
 ionomer nucleation agent polyester; epoxy novolak chain  
 extender polyester; glass fiber reinforcement polyester  
 IT 85-41-6D, alkyl or alkylene derivs. 20332-12-1 27646-77-1,  
 N-Dodecylphthalimide 107513-46-2 107513-81-5 161278-78-0D,  
 Jeffamine M360, phthalimide derivs.  
 (plasticizer, for polyester moldings)

L45 ANSWER 50 OF 53 HCAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 1981:31515 HCAPLUS Full-text  
 DOCUMENT NUMBER: 94:31515  
 ORIGINAL REFERENCE NO.: 94:5201a,5204a  
 TITLE: Thermosetting resin compositions  
 PATENT ASSIGNEE(S): Mitsubishi Electric Corp., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

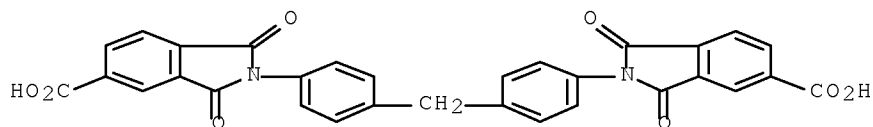
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 55092727	A	19800714	JP 1979-836	19790106
			<--	
PRIORITY APPLN. INFO.:			JP 1979-836	A 19790106
			<--	

ED Entered STN: 12 May 1984  
 AB Heat-resistant resins are prepared from 30-55% novolak condensates, 45-70%  
 imide ring-containing dicarboxylic acid-epoxy resin reaction products, and  
 hardening catalysts. Thus, p,p'-dimethoxydimethyldiphenyl ether 1162 g, p-  
 C6H5C6H4OH 936, and ferric chloride 0.2 g were heated at 180° for 3 h with  
 removal of MeOH, dissolved in toluene to concentration 50%, mixed (1500 g)  
 with 1500 g imide ring-containing epoxy resin prepared by heating p,p'-  
 diphenylmethane bis(trimellitic acid imide) 273, Epikote 828 950, and  
 benzyltriethylammonium chloride 0.6 g at 200° for 1 h, mixed with 7.5 g BF3.2-  
 methylimidazole, coated on aminosilane-treated glass fabric, dried at 110° for  
 10 min to form prepreps, degassed at 170°, molded at 80 kg/cm2 for 30 min, and  
 heated at 200° for 10 h to prepare a laminate having bending strength 51.51  
 kg/mm2 and 48 kg/mm2 initially and after 1000 h at 240°, resp.  
 IT 4649-32-5D, polymers with dimethoxydimethyldiphenyl ether,  
 Epikote 828, and phenylphenol

(heat-resistant)

RN 4649-32-5 HCAPLUS

CN 1H-Isoindole-5-carboxylic acid, 2,2'-(methylenedi-4,1-phenylene)bis[2,3-dihydro-1,3-dioxo- (CA INDEX NAME)



IC C08G059-14

CC 36-3 (Plastics Manufacture and Processing)

IT 92-69-3D, polymers with dimethoxydimethyldiphenyl ether, Epikote 828, and diphenylmethane bis(trimellitic imide) 2509-26-4D, polymers with Epikote 828, diphenylmethane bis(trimellitic imide), and phenylphenol 4649-32-5D, polymers with dimethoxydimethyldiphenyl ether, Epikote 828, and phenylphenol 25068-38-6D, polymers with dimethoxydimethyldiphenyl ether, diphenylmethane bis(trimellitic imide), and phenylphenol  
(heat-resistant)

L45 ANSWER 51 OF 53 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1980:172475 HCAPLUS Full-text

DOCUMENT NUMBER: 92:172475

ORIGINAL REFERENCE NO.: 92:27819a,27822a

TITLE: Radiation-sensitive mixture useful in preparing relief images

INVENTOR(S): Sander, Juergen; Buhr, Gerhard; Ruckert, Hans

PATENT ASSIGNEE(S): Hoechst A.-G., Fed. Rep. Ger.

SOURCE: Ger. Offen., 37 pp.

CODEN: GWXXBX

DOCUMENT TYPE: Patent

LANGUAGE: German

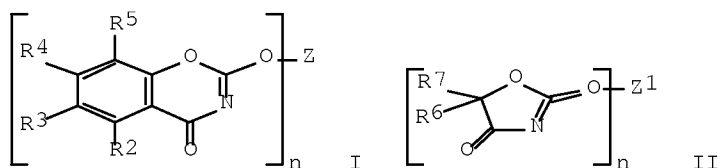
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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DE 2829512	A1	19800117	DE 1978-2829512	19780705
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EP 6626	A2	19800109	EP 1979-102168	19790629
			<--	
EP 6626	B1	19821215		
R: BE, CH, DE, FR, GB, IT, NL, SE				
JP 55126236	A	19800929	JP 1979-84469	19790705
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JP 62039421	B	19870822		
US 4250247	A	19810210	US 1979-54809	19790705
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PRIORITY APPLN. INFO.:			DE 1978-2829512	19780705
			<--	

ED Entered STN: 12 May 1984

GI



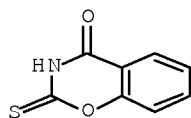
AB A radiation-sensitive mixture suitable for the preparation of relief images contains: (1) a compound which yields an acid upon exposure to actinic radiation; (2) a compound whose solubility in a liquid developer is increased by the action of acid and which contains  $\geq 1$  acid-cleavable N-acyliminocarbonate group and has a composition corresponding to formulas  $[\text{ROC}(:\text{NCOR1})\text{O}]_n\text{Z}$ , I, or II (R, R1 = alkyl, aryl; n = 1-3; Z = an n-valent aliphatic, cycloaliph., or aromatic radical; 2 of the radicals R, R1, and Z may may combine to form a heterocyclic ring; R2-R5 = H, halo, alkyl, alkoxy, aryl, aryloxy, acyl, acyloxy, carbalkoxy, NO<sub>2</sub>; some of the R2-R5 groups may combine to form a ring; Z1 = n-valent aromatic radical; R6, R7 = H, alkyl). Optionally, the material may contain a polymeric H<sub>2</sub>O-insol. binder. This radiation-sensitive material is used as the recording layer on a suitable support and imagewise exposed so that the solubility in liquid developer is increased and the exposed part is thereby removed to give a relief image. Thus, an electrolytically roughened and anodized Al film was whirler coated with a solution containing MeCOEt 94.6, cresol-HCHO Novolak 4, 2-[4-(2,4-dichlorophenoxy)phenoxy]-5,5-dimethyl-1,3-oxazolin-4-one 1.2, 2-(4-ethoxy-1-naphthyl)-4,6-bis(trichloromethyl)-s-triazine 0.2, and Crystal Violet 0.01 weight % to give a coating of 1.5-2.0 g/m<sup>2</sup> (dry). The material was exposed through a line and grating pattern to a 5-kW metal halide lamp at 110 cm for 20 s after which a strong cyan image was produced. The image was developed with a solution containing Na<sub>2</sub>SiO<sub>3</sub>, Na<sub>3</sub>PO<sub>4</sub>, and NaH<sub>2</sub>PO<sub>4</sub> in salt-free H<sub>2</sub>O and after 40 s the exposed part was removed to leave the blue colored unexposed area as a printing pattern. The plate thus obtained was inked in the usual manner and used in a printing press. After 50,000 copies were made the plate was still intact.

IT 10021-35-9D, derivs.

(reactions of, with chlorine)

RN 10021-35-9 HCAPLUS

CN 4H-1,3-Benzoxazin-4-one, 2,3-dihydro-2-thioxo- (CA INDEX NAME)



IC G03C001-49; G03F001-02

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic Processes)

IT Printing plates

(relief, radiation-sensitive materials containing N-acyliminocarbonate groups for production of)

IT 2346-24-9D, derivs. 10021-35-9D, derivs.

(reactions of, with chlorine)

L45 ANSWER 52 OF 53 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1980:6987 HCAPLUS Full-text

DOCUMENT NUMBER: 92:6987

ORIGINAL REFERENCE NO.: 92:1313a,1316a

TITLE: Synthesis and study of phosphorus-containing  
poly(amido imides)AUTHOR(S): Mashkevich, S. A.; Maimakov, T. P.; Zhubanov, B.  
A.

CORPORATE SOURCE: Inst. Khim. Nauk, Alma-Ata, USSR

SOURCE: Izvestiya Akademii Nauk Kazakhskoi SSR, Seriya  
Khimicheskaya (1979), 29(4), 56-60

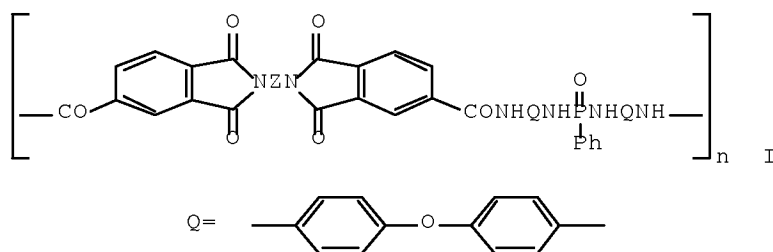
CODEN: IKAKAK; ISSN: 0002-3205

DOCUMENT TYPE: Journal

LANGUAGE: Russian

ED Entered STN: 12 May 1984

GI



AB One class of title polymers [I; Z = (CH<sub>2</sub>)<sub>6</sub>, Q], prepared by polycondensation of the bis(trimellitimide chlorides) with PhPO(NHQN<sub>2</sub>)<sub>2</sub> [72092-33-2] in N-methylpyrrolidone at room temperature, were self-extinguishing but had slightly lower thermal stability than similar polyamide-polyimides containing no P. Other polyamide-polyimides with P in side chains, obtained by reaction of PCl<sub>3</sub> with copolymers of the bis(trimellitimide chlorides) with 4,4'-oxybis(1,2-phenylenediamine), were hygroscopic and much less thermally stable but still self-extinguishing.

IT 72100-03-9DP, reaction products with phosphorus trichloride

72108-18-0DP, reaction products with phosphorus trichloride  
(preparation and properties of)

RN 72100-03-9 HCAPLUS

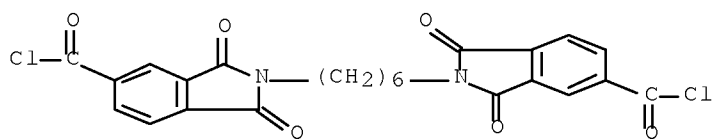
CN 1H-Isoindole-5-carbonyl chloride, 2,2'-(1,6-hexanediyl)bis[2,3-dihydro-1,3-dioxo-, polymer with 4,4'-oxybis[1,2-benzenediamine] (9CI) (CA INDEX NAME)

CM 1

CRN 37710-66-0

CMF C24 H18 C12 N2 O6

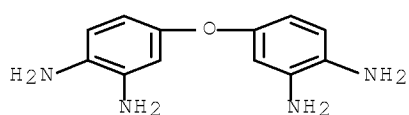
10/531,629



CM 2

CRN 2676-59-7

CMF C12 H14 N4 O



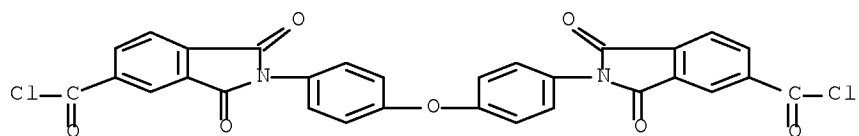
RN 72108-18-0 HCAPLUS

CN 1H-Isoindole-5-carbonyl chloride, 2,2'-(oxydi-4,1-phenylene)bis[2,3-dihydro-1,3-dioxo-, polymer with 4,4'-oxybis[1,2-benzenediamine] (9CI)  
(CA INDEX NAME)

CM 1

CRN 17012-83-8

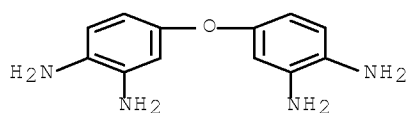
CMF C30 H14 C12 N2 O7



CM 2

CRN 2676-59-7

CMF C12 H14 N4 O





CC 35-3 (Synthetic High Polymers)  
 ST fire resistant polyamide polyimide; phosphorus contg  
 polyamide polyimide  
 IT Fire-resistant materials  
 (phosphorus-containing polyamide-polyimides)  
 IT Polyimides, properties  
 (polyamide-, fire and heat resistance of)  
 IT Polyamides, properties  
 (polyimide-, fire and heat resistance of)  
 IT 72099-29-7 72099-32-2 72100-04-0 72100-10-8  
 (fire and heat resistance of)  
 IT 72100-03-9DP, reaction products with phosphorus trichloride  
 72100-18-0DP, reaction products with phosphorus trichloride  
 (preparation and properties of)

L45 ANSWER 53 OF 53 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1976:534213 HCAPLUS Full-text

DOCUMENT NUMBER: 85:134213

ORIGINAL REFERENCE NO.: 85:21440h,21441a

TITLE: Production of highly heat-resistant film patterns  
 from photoreactive polymeric precursors. Part 1.  
 General principle

AUTHOR(S): Rubner, Roland

CORPORATE SOURCE: Forschungslab., Siemens A.-G., Erlangen, Fed. Rep.  
 Ger.

SOURCE: Siemens Forschungs- und Entwicklungsberichte (  
 1976), 5(2), 92-7  
 CODEN: SFEBBL; ISSN: 0370-9736

DOCUMENT TYPE: Journal

LANGUAGE: English

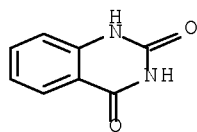
ED Entered STN: 12 May 1984

AB Soluble polymeric precursors of highly heat-resistant classes of compds., with  
 chain segments linked by bridges that carry amide groups possess, adjacent to  
 these bridges, photoreactive groups R\* bound in an ester-like fashion. As a  
 consequence they can be converted to crosslinked film patterns by  
 photomechanical means. Because of their special chemical structure these film  
 patterns can subsequently be converted into highly heat-resistant layered  
 structures suitable for use in photolithog., simply by tempering. In this  
 process the photoreactive groups and the crosslinking bridges are set free as  
 alcs. and polyalcs. resp. They can be volatilized by a suitable choice of  
 tempering conditions. Highly heat-resistant compds. include polyimides,  
 polyamidoimides, polyester imides, polyhydantoinimides,  
 polyquinazobinodionimides, polybenzoxazinodiones, polyquinazolinodiones, and  
 polyisindoloquinazolinodiones. The chemical reactions involved in the change  
 from soluble precursor through photochem. crosslinked intermediates to heat-  
 resistant final products of these compds. are shown. Suitable photoreactive  
 groups R\* are derived from alcs. with functional groups capable of dimerizing  
 or polymerizing. Allyloxy, methacrylateoxy, and maleimidomethoxy groups  
 are especially suited. The photoreactive polymers can be handled with the  
 usual methods of photoresist technol. Specific material properties can be  
 obtained, such as high photosensitivities and good processing properties  
 combined.

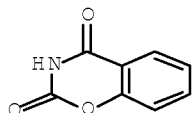
IT 86-96-4D, 2,4(1H,3H)-Quinazolinedione, polymers  
 2037-95-8D, 2H-1,3-Benzoxazine-2,4(3H)-dione, polymers  
 (heat-resistant film patterns from photoreactive)

RN 86-96-4 HCAPLUS

CN 2,4(1H,3H)-Quinazolinedione (CA INDEX NAME)



RN 2037-95-8 HCAPLUS  
 CN 2H-1,3-Benzoxazine-2,4(3H)-dione (CA INDEX NAME)



CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic Processes)  
 IT Printing plates  
     (photoresists containing photoreactive polymeric precursors for)  
 IT 86-96-4D, 2,4(1H,3H)-Quinazolinedione, polymers  
     2037-95-8D, 2H-1,3-Benzoxazine-2,4(3H)-dione, polymers  
     30354-60-0D, 7H,9H-Benzo[1'',2'':3,4:4'',5'':3',4']dipyrrolo[2,1-  
     b:2',1'-b']diquinazoline-7,9,16,18-tetrone, polymers  
     (heat-resistant film patterns from photoreactive)

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(FILE 'HOME' ENTERED AT 14:09:23 ON 25 APR 2008)

FILE 'HCAPLUS' ENTERED AT 14:09:36 ON 25 APR 2008

L1 1 SEA ABB=ON PLU=ON US20060019191/PN

FILE 'REGISTRY' ENTERED AT 14:10:01 ON 25 APR 2008

L2 5 SEA ABB=ON PLU=ON (100346-90-5/BI OR 20871-03-8/BI OR  
4297-75-0/BI OR 681430-23-9/BI OR 681430-24-0/BI)  
L3 STR  
L4 50 SEA SSS SAM L3  
L5 STR L3  
L6 50 SEA SSS SAM L5  
L7 9572 SEA ABB=ON PLU=ON 591.160/RID  
L8 261285 SEA ABB=ON PLU=ON 333.79/RID  
L9 2056 SEA ABB=ON PLU=ON 591.266/RID  
L10 348787 SEA ABB=ON PLU=ON 591.100/RID  
L11 262078 SEA ABB=ON PLU=ON 591.50/RID  
L12 22679 SEA ABB=ON PLU=ON 1784.14/RID  
L13 QUE ABB=ON PLU=ON (L7 OR L8 OR L9 OR L10 OR L11 OR L12)  
L14 902437 SEA ABB=ON PLU=ON (L7 OR L8 OR L9 OR L10 OR L11 OR L12)  
L15 50 SEA SUB=L14 SSS SAM L5  
L16 272323 SEA SUB=L14 SSS FUL L5  
L17 2 SEA ABB=ON PLU=ON L16 AND L2  
SAV L16 TEMP EOF629/A

FILE 'HCAPLUS' ENTERED AT 15:47:49 ON 25 APR 2008

L18 2845 SEA ABB=ON PLU=ON L16/D OR L16/DP  
L19 1 SEA ABB=ON PLU=ON L18 AND L1  
L20 7 SEA ABB=ON PLU=ON L18(L)PHENOLIC?  
E PHENOLIC RESINS, PROPERTIES/CT  
L21 4964 SEA ABB=ON PLU=ON "PHENOLIC RESINS, PROPERTIES"+PFT,NT/CT  
L22 3 SEA ABB=ON PLU=ON L18 AND L21  
L23 852 SEA ABB=ON PLU=ON L18 AND PRP/RL  
L24 12 SEA ABB=ON PLU=ON L23 AND LITHOG?  
L25 9 SEA ABB=ON PLU=ON L18(L)PHENOL?  
L26 156 SEA ABB=ON PLU=ON L18 AND PHENOL?  
L27 4 SEA ABB=ON PLU=ON L26 AND LITHOG?  
L28 23 SEA ABB=ON PLU=ON L20 OR L22 OR L24 OR L25 OR L27  
L29 4 SEA ABB=ON PLU=ON L18(L)NOVOLAK?  
L30 20 SEA ABB=ON PLU=ON L18 AND NOVOLAK?  
E POSITIVE PHOTORESISTS/CT  
L31 4462 SEA ABB=ON PLU=ON "POSITIVE PHOTORESISTS"+PFT,NT/CT  
E PRINTING PLATES/CT  
L32 19964 SEA ABB=ON PLU=ON "PRINTING PLATES"+PFT,NT/CT  
L33 24 SEA ABB=ON PLU=ON L18 AND (L31 OR L32)  
L34 55 SEA ABB=ON PLU=ON L28 OR L29 OR L30 OR L33  
L35 36 SEA ABB=ON PLU=ON L34 AND (1840-2003)/PRY,AY,PY  
L36 496 SEA ABB=ON PLU=ON L18 AND POLYMER?/SC,SX  
L37 638 SEA ABB=ON PLU=ON L18(L)PRP/RL  
L38 230 SEA ABB=ON PLU=ON L37 AND L36  
L39 1 SEA ABB=ON PLU=ON L38 AND L31  
L40 0 SEA ABB=ON PLU=ON L38 AND L32  
L41 1 SEA ABB=ON PLU=ON L38 AND LITHOG?  
L42 26 SEA ABB=ON PLU=ON L38 AND ?RESIST?  
L43 26 SEA ABB=ON PLU=ON (L39 OR L40 OR L41 OR L42)  
L44 18 SEA ABB=ON PLU=ON L43 AND (1840-2003)/PRY,AY,PY

10/531,629

L45

53 SEA ABB=ON PLU=ON L35 OR